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WALKER, FRANCIS  
INSECTA BRITANNICA:  
DIPTERA  
VOL. II 1853

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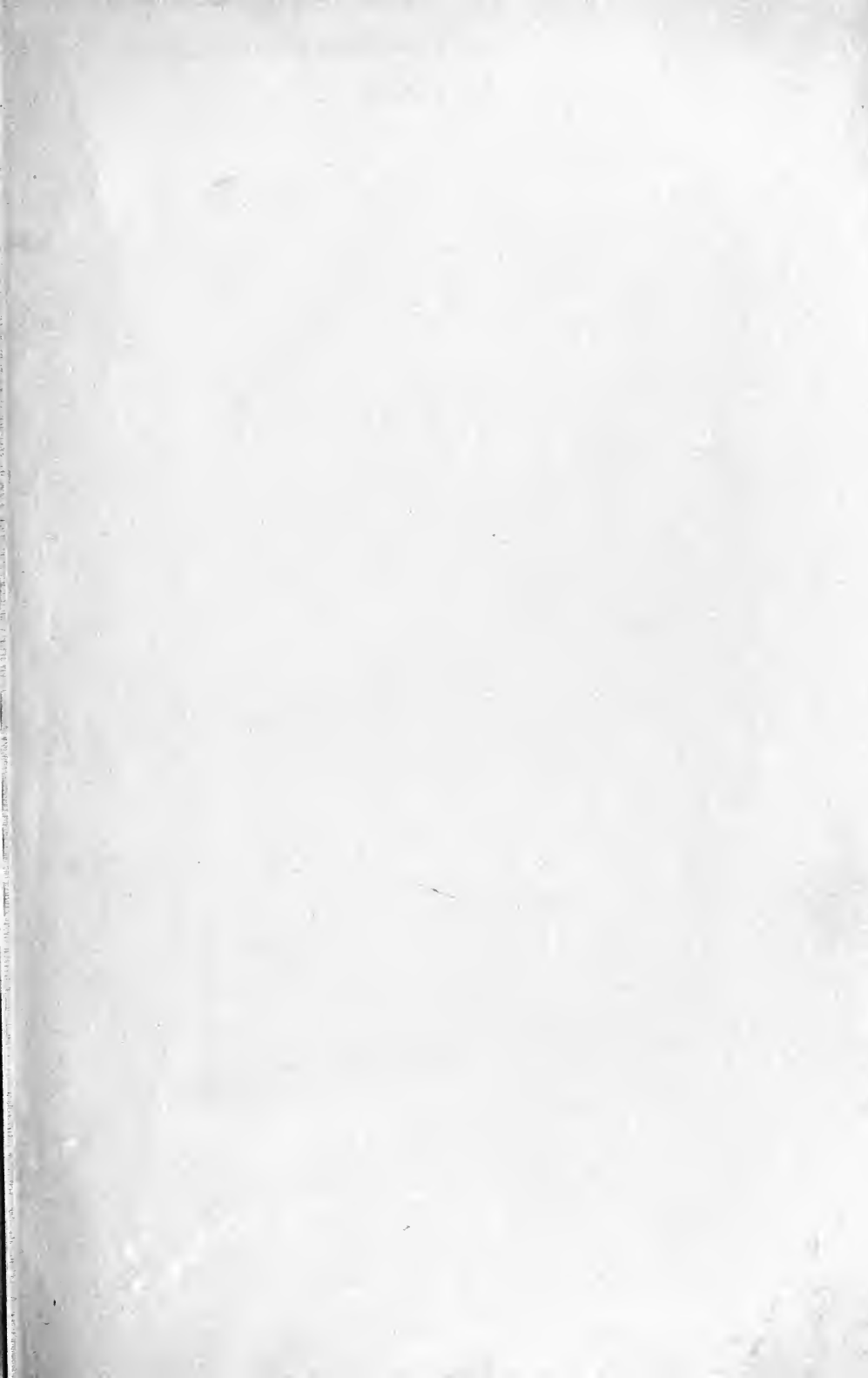
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# INSECTA BRITANNICA.

## DIPTERA.

VOL. II.

BY

FRANCIS WALKER, F.L.S.

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LONDON:

LOVELL REEVE, HENRIETTA STREET, COVENT GARDEN.

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## P R E F A C E.

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THE second volume of DIPTERA of "Insecta Britannica" comprises the latter part of the *Brachycera*, with the *Hypocera* and the *Eproboscidea*. In the *Brachycera* two families are described, the *Muscidæ* and the *Æstridæ*, and the former is divided into sixteen subfamilies. Upon closely examining the little-studied families contained in this volume, the number of species has been found very much greater than was anticipated, and, as we are limited to a certain number of pages, only a portion of the species could be given. The British *Diptera* seem to be as numerous as those of Scandinavia, which Zetterstedt, in his elaborate work, occupied eleven volumes in describing. The subfamilies above mentioned are here briefly noticed. The *Myopides* and the *Sarcophagides* are mostly described. In the *Tachinides* about half the British species of *Tachina* are omitted. The species of this genus are very numerous, and require all their characters to be fully detailed, in order to identify them with certainty, and the omission of a precise notice of a single part of the structure is sufficient to cause a doubt as to the species. The greater part of the *Muscides*, and about half the *Derides* are described; but the *Anthomyides* in this volume probably do not exceed one-fourth of the British species. Many species of *Helomyzides*, *Lauxanides*,

*Ortalides*, *Oscinides* and *Psilides* are unnoticed ; but the *Sepsides* omitted are for the most part mere varieties. The *Borborides* and the *Hydromyzides* are more complete, and are copied from Mr. Haliday's excellent descriptions of the genera and species of those tribes. The *Geomyzides* and the *Phytomyzides* are mostly passed over ; but the *Æstridæ*, the *Hypocera*, and the *Eproboscidea* are rather fully detailed. Mr. Westwood has again prepared ten plates for this volume, Mr. Haliday's state of health having prevented his contributing the illustrations of the wing-veins of *Diptera*.

FRANCIS WALKER.

December, 1853.

# EXPLANATION OF THE CONTRACTIONS IN THE REFERENCES.

- Ahr., et Ahrens Fn.—Ahrens, Fauna Insectorum Europæ.
- Bigot.—Bigot, Annales de la Société Entomologique de la France, Série 2.
- Bjerkander.—Bjerkander, Kongl. Svenska Vetenskaps Academiens Handlingar.
- Blanch.—Blanchard, Histoire Naturelle des Insectes.
- Boh.—Bohemann, Kongl. Svenska Vetenskaps Academiens Handlingar.
- Boie.—Boie, Entomologische Zeitung.
- Bouché Naturg.—Bouché, Naturgeschichte der Insekten.
- Clark, (Estr. et Estrid.; L. T.—Clark, Essay on the Bots of Horses, etc.; Transactions of the Linnæan Society of London.
- Coq. et Coqneb.—Coquebert, Illustratio Iconographica Insectorum, etc.
- Curt. B. E.—Curtis, British Entomology.
- De Brebisson.—De Brebisson.
- D. G. I. et Ins.—De Geer, Insectes, etc.
- Desv. et Dvd. E. M.; Rev. et Mag. Zool.—Desvoidy, Essai sur les Myodaires; Revue et Magazin de Zoologie.
- Don.—Donovan, Natural History of British Insects.
- Doumerc.—Doumerc, Annales de la Société Entomologique de France.
- Duméril et Dumr. H. N.—Duméril, Dictionnaire Nouveau de l'Histoire Naturelle.
- F., Fb., et Fabr. S. I., et Sp. I., et Sp. i., E. S. spl., et Suppl.; S. A.—Fabricius, Species Insectorum; Entomologia Systematica, Supplement; Systema Antliatorum.
- Fal. Act. Holm.; Msc. et Musc.; Rhiz.; Scat.; Sciom.; Helom.; Heterom.; Ortal.; Ochtid.; Opomyz.; Oscinid.; Geom.; Agromyz.; Phytomyz.; Hydr.—Fallen, Acta Holmiæ; Muscides; Rhizomata; Scatomyzides; Sciomyzides; Helomyzides; Heteromyzides; Ortalides; Ochtideæ; Opomyzides; Oscinides; Geomyzides; Agromyzides; Phytomyzides; Hydromyzides.
- Fischer.—Fischer von Waldheim; Programme.
- Frisch.—Frisch, Beschreibung von allerlei Insecten in Deutschland.
- Fuessly, Verz.—Fuessly, Verzeichniss, etc.
- Geoff. Ins.—Geoffroy, Histoire des Insectes.
- Germ.—Germar, Insectorum Species Novæ, etc.
- Gmel.—Gmelin, Linn. Systema Naturæ, ed. 13.
- Guér.—Guérin, Iconographie du Règne Animal.
- Hal. E. M. et Ent. Mag.; A. N. H.; D. B. et Ins. Brit. Dipt.—Haliday, Entomological Magazine; Annals of Natural History; Insecta Britannica, Diptera.
- Hardy, Proc. Berw. Nat. Club.—Hardy, Proceedings of the Berwickshire Naturalists' Club.
- Har. I.—Harris, Exposition of English Insects.
- Hbst.—Herbst, Archiv der Insectengeschichte, etc.

- Herm. Mem. Apt. — Hermann, Mémoire Aptérologique.
- Hoffm. et Hoff. — Hoffmannsegg in Meigen.
- Kby. et Kirby. — Kirby, Introduction to Entomology.
- Lam. — Lamarck, Animaux sans Vertèbres.
- Latr. G. C. et Gen. ; H. N. et H. N. I. ; Prec. Car. Gen. — Latreille, Genera Crustaceorum et Insectorum ; Histoire Naturelle des Insectes ; Précis des Caractères, etc.
- Lea. Ectrid. Ins. ; Eprobosc. Ins. et Eprobosc. Ins. ; Enc. Brit. ; Suppl. Enc. Brit. ; Zool. Misc. — Leach, on Eproboscideous Insects, etc. ; Encyclopædia Britannica and Suppl. ; the Zoological Miscellany.
- Léon Duf. — Léon Dufour, Annales des Sciences Naturelles ; Annales de la Société Entomologique de France.
- L. Fn. et F. S. ; S. N. ; I. Westrog. — Linnæus, Fauna Suecica ; Systema Naturæ ; Reisen durch Ost-Gothland.
- Loew. — Loew, Entomologische Zeitung.
- Macleay. — Macleay, Horæ Entomologica.
- Mcq. H. et H. N. D. ; A. S. E. F., Ser. 2. — Macquart, Histoire Naturelle des Insectes Diptères ; Annales de la Société Entomologique de la France, Série 2.
- Meg. — Megerle in Meigen.
- Meig. Kl. ; Zw. ; Illig. Mag. — Meigen, Klassifikation, etc. ; Zweiflügeligen Insekten ; Illiger's Magazin.
- Mont. — Montague, Transactions of the Linnæan Society of London.
- Newm. E. M. — Newman, Entomological Magazine.
- Nitzsch. — Nitzsch, Germar's Magazin.
- Olfers. — Olfers, De Vegetativis et Animatis Corporibus in corporibus animatis reperiundis Commentarius.
- Oliv. — Olivier, Encyclopédie Méthodique.
- Pz., Panz., et Panzer, Fn. — Panzer, Fauna Insectorum Germaniæ.
- Réaum. — Réaumur, Insectes, etc.
- Ross. et Rossi, Fn. Etrusc. — Rossi, Fauna Etrusc.
- Schæff. Ic. — Schæffer, Icones Insectorum.
- Schell. G. M. — Schellenberg, Genres des Mouches.
- Schr. F. B. ; I. A. — Schranck, Fauna Boica ; Insecta Austriæ.
- Scop. E. C. — Scopoli, Entomologia Carniolica.
- St. — Stephens, Systematic Catalogue of British Insects.
- Stæg. — Stæger in Zetterstedt.
- Stenh. — Stenhammer, Kongl. Svenska Vetenskaps Academiens Nya Handlingar.
- Sulz. — Sulzer, Geschichte der Insekten.
- Voigt. — Voigt, etc.
- Walk. — Walker, Entomological Magazine.
- Westw. Class. et Cl., et Class. Ins. — Westwood, Classification of Insects.
- Wied. Zm. et Zool. Mag. — Wiedemann (in Meig.), Zoologische Magazin.
- Winnertz. — Winnertz, Entomologische Zeitung.
- Zett. I. L. ; D. S. et D. Sc. — Zetterstedt, Insecta Lapponica ; Diptera Scandinaviæ.

# INSECTA BRITANNICA.

## DIPTERA.

BRACHYCERA. (See Vol. I. p. 8.)

### FAMILY XXVII. MUSCIDÆ.

MUSCIDÆ p., Latr. G. C. (1809); Lam.; St.; Curt.; Westw. *Musca* p., L. *Muscides* p. et *Stomoxys*, Fal.; Meig. *Sarcostomæ* p., Dumr. *Chetoloxæ* p., Dumr. *Myodariæ* p., Dumr. *Dichæta*, *Athericera* p., Mcq.; Zett. *Muscidæ* et *Stomoxydæ*, Lea. *Muscides*, Mcq. *Muscidii*, Bigot.

*Caput* sat magnum. *Oculi* subtus genis inclusi. *Proboscis* distincta. *Antennarum* articuli apicales aristam fingentes, articuli tertii dorso insertam. *Alæ* confertæ, rarissime abortivæ; vena cubitalis simplex; vena spuria apud venas brachiales nulla; lobus axillaris rotundatus. Head large; proboscis distinct; eyes below bounded by the cheeks; last joints of antennæ forming a slender arista, attached to the third joint on its upper edge. Wings perfect, very rarely abortive; cubital vein simple; brachial veins without spurious vein; axillary lobe rounded. Halteres of some hidden, of others uncovered.

The *Muscidæ* are the most remarkable of the families of *Diptera*, on account of their very numerous groups, species, and individuals, of their extensive variation of structure, and of their great importance in the economy of nature. The nomenclature of some parts of their structure requires a short explanation. The *frons* extends from the hind part of the head to the base of the antennæ, and occupies the space between the eyes; its hinder part is the *vertex*, before which are the *ocelli*; its fore part contains the *frontalia*, which are dark-coloured, and more or less linear; in some cases

they are partly or wholly divided by the triangular *interfrontalia*. The *ptilinum* is a soft membrane, which in many species, and especially in the newly-hatched flies, appears between the antennæ and the front, and is alternately projected and withdrawn. The *facies* extends from the base of the antennæ to the *epistoma*; its middle part contains two *foveæ*, in which the antennæ rest; its lateral borders are the *facialia*, and are frequently setigerous. The *mediana* are two triangular parts between the *facialia* and the *optica*, or borders of the eyes, a little above the lateral borders of the peristoma. The *lateralia* are beyond them, and on the lower sides of the peristoma. The third joint of the antennæ attains its maximum of development in the leading groups of this family, and may be the organ of smell; it is perforated on its inner side in the larger *Tachinides*. The fourth, fifth, and sixth joints form the *arista*, or bristle; the fourth and fifth are obsolete in most genera. In the wings the flexure of the præbrachial vein is generally a characteristic of the *Tachinides* and of the *Muscides* which have the most powerful flight. The radial vein springs from the mediastinal vein, near the humeral transverse vein. The cubital vein springs from the radial near its base, and is connected with the præbrachial before one-third of its length by a thick slightly oblique transverse vein. The pobrachial vein springs like the præbrachial and the anal from the intermediate axis, near which it is connected with them by two transverse veins. The distance of the discal transverse vein from the border is measured on the continuation of the pobrachial vein. The anal vein is almost obsolete soon after its junction with the pobrachial. The subanal vein springs from the intermediate axis.

Some species are insectivorous, many are parasitic in the larva state, the rest feed on living or decaying animal or vegetable matter. The species will form two divisions:—

- |                                    |                |
|------------------------------------|----------------|
| Alulæ distinct . . . . .           | 1. CALYPTERÆ.  |
| Alulæ indistinct or none . . . . . | 2. ACALYPTERÆ. |

*Alulæ distinctæ*.—Div. 1. CALYPTERÆ.

The *Calyptera* are generally also distinguished by their comparatively large size, compact bodies, dark or metallic bodies, and frequently by the development of the fourth and fifth joints of the antennæ or the basal joints of the arista.

*Calypteratæ* p., et *Mesomydæ*, Desv. *Creophylæ* et *Anthomyzidæ*, Latr.;  
Mcq. *Calyptera*, Meig.



They comprise the following subfamilies :—

- a.* Head vesiculose. 1. MYOPIDES.  
*a a.* Head not vesiculose.  
*b.* Alulæ large.  
*c.* Thorax short.  
*d.* Legs moderate.  
*e.* Arista bare, pubescent, or plumose at the base. 2. TACHINIDES.  
*e e.* Arista plumose to the tip. 5. MUSCIDES.  
*d d.* Legs long. 3. DEXIDES.  
*c c.* Thorax long. 4. SARCOPHAGIDES.  
*b b.* Alulæ moderate or small. 6. ANTHOMYIDES.

• SUBFAMILY 1. MYOPIDES.

*Myopa*, F. *Conopsariæ* p., Fal.; Meig. *Conopidæ* p., Lea.; St.; Westw.  
*Myopariæ*, Mcq.; Zett. *Occemydæ*, Desv. *Myopidæ*, Bigot.

*Caput vesiculosum.* *Proboscis longa, gracilis.* *Alulæ parvæ.* Abdomen cylindricum, subtus apice recurvum.

*Head vesiculose*; front broad. *Proboscis long, slender.* Arista dorsal. Wings small; costal vein ending at the tip of the wing; subcostal vein ending at a little before half the length of the fore border; mediastinal vein ending at a little beyond half the length of the fore border; radial vein ending at about two-thirds of the length of the fore border; cubital vein undulating, ending at a little in front of the tip of the wing; præbrachial vein forming an obtuse angle at its junction with the discal transverse vein, joining the costal vein at very little in front of the tip of the latter; discal transverse vein straight, its distance from the hind border one-fourth or one-half of its own length; axillary and subaxillary veins united at some distance from the border; anal vein not reaching the border. *Alulæ small.* Abdomen cylindrical, recurved beneath at the tip. Legs stout.

The species are probably parasites of other insects. The two British genera may be thus divided :—

Proboscis with	{ one joint . . . . .	1. ZODION.
	{ two joints . . . . .	2. MYOPA.

---

Genus I. **ZODION.**

ZODION, Latr. G. C. iv. (1809); Meig.; Mcq.; Desv.; Germ.; Westw.; Zett. *Myopa* p., F.; Fal.

*Caput subglabrum.* Os nudum. *Proboscis basi geniculata.* Antennæ

porrectæ, subdeflexæ, capite paullo breviores; articulus primus cylindricus; secundus et tertius longitudine æquales, hic ovatus, ille clavatus. Alæ parallelæ, incumbentes. Ungues et onychia mediocria.

Head almost smooth. Mouth bare. *Proboscis geniculate at the base. Antennæ porrect*, slightly deflexed, a little shorter than the head; *second and third joints* of equal length, second clavate, third oval. Wings parallel, incumbent. Ungues and onychia of moderate size.

1. **cinereum**, F. E. S. iv. 399. 9 (1794); Fal.; Meig.; Mcq.; Germ.; Zett.—*tibialis*, F.—*conopsoides*, Latr.—*notatum*, Meig.; Mcq.; Zett.—*irrorata*, F.—*tessellata*, F. Nigrum, cinereo-tomentosum, capite albo-flavo vertice fusco, antennis articulo tertio nonnunquam subtus fulvo, thorace vittis quatuor abdomineque maculis nigro-fuscis, alis subcinereis basi hyalinis, halteribus flavis, genibus fulvis. Long.  $2\frac{1}{2}$ –3; alar. 4–5 lin.

Black, with cinereous tomentum. Head whitish-yellow; vertex brown. Third joint of the antennæ occasionally tawny beneath. Thorax with four stripes, and abdomen with spots of a dark brown colour. Wings slightly grey, colourless at the base. Halteres yellow. Knees tawny.

Not common. (E.)

## Genus II. **MYOPA.**

**MYOPA**, Latr. G. C. iv. (1809); Meig.; Mcq.; Desv.; Westw.; Zett. *Conops* p., L.; F.; Pz.; Fal. *Sicus* p., Scop. *Myopa* p., F.; Meig. Kl.; Fal.

*Proboscis basi medioque geniculata. Antennæ porrectæ*; articulus primus cylindricus; secundus clavatus basi compressus; *tertius brevis*. Alæ incumbentes, parallelæ.

*Proboscis geniculate at the base and in the middle. Antennæ porrect*; first joint cylindrical; second clavate, compressed at the base; *third short*. Wings incumbent, parallel.

The species may be thus grouped:—

- a. Body ferruginous. Third joint of the antennæ not more than half the length of the second. Discal transverse vein at the distance of half its length from the hind border.
  - b. Wings spotted.
    - c. Transverse veins not clouded. Species 1.
    - c c. Transverse veins clouded. Species 2.
  - b b. Wings not spotted.
    - c. Abdomen ferruginous. Species 3.
    - c c. Abdomen black. Species 4.
- a a. Body black. Third joint of the antennæ a little shorter than the second. Discal transverse vein at the distance of one-fourth of its length from the hind border. Species 5.

1. **buccata**, L. F. S. 1905 (1761); Scop.; F.; Pz.; Fal.; Meig.; Mcq.; Zett. Ferruginea, capite antice subtusque albedo, vertice fusconotato, thoracis disco nigro vittis duabus canis, *alis subcinereis antice subfuscis maculis tribus hyalinis*, abdomine basi nigro apicem versus cano-tomentoso. Long.  $3-3\frac{1}{2}$ ; alar. 6-7 lin.

Pale ferruginous. Head whitish in front and beneath; vertex with some brown spots. Proboscis piceous. Disc of the thorax black, with two hoary stripes. *Wings slightly grey, pale brown towards the fore border, with three hyaline spots in the disc.* Halteres palc, testaceous. Abdomen black at the base, covered with hoary tomentum towards the tip.

Not rare. (E.)

2. **testacea**, L. S. N. 11.1006. 11 (1763); F.; Gmel.; Pz.; Fal.; Latr.; Meig.; Mcq.; Zett. Ferruginea, capite supra fusco-maculato antice et subtus albo, thoracis disco nigro cano-bivittato, *alis subcinereis basi subflavis, venis transversis nigro-fusco nebulosis*, abdominis lateribus tomento cano maculatis. Long.  $3-4\frac{1}{2}$ ; alar. 6-9 lin.

Ferruginous. Head with some brown spots above; white and clothed with white hairs in front and beneath. Proboscis piceous. Palpi testaceous. Antennæ paler towards the tips. Disc of the thorax black, with two hoary stripes. *Wings pale grey, slightly yellowish at the base and along the adjoining part of the fore border; transverse veins clouded with blackish-brown.* Sides of the abdomen with spots of hoary tomentum, which forms a band near the tip.

Common. (E. S.)

3. **ferruginea**, L. F. S. 1907 (1761); F.; Gmel.; Fal.; Latr.; Meig.; Mcq.; Zett.; Pz.! Fn. xxii. 24.—*dorsalis*, F.; Meig.; Fal.; Latr.; Zett.—*ephippium*, F.—*fasciata*, Meig.; Mcq.—*testacea*, F. S. I; Gmel.—*grandis*, Meig.; Geoff.; Schell. G. M. pl. 20. f. 1, 2. Ferruginea, capite albo vertice luteo, thorace nigro-trivittato, *alis subcinereis basi flavis antice et apud venas subfuscis, abdomine longo lateribus tomento cano-maculatis*. Long.  $5\frac{1}{2}-6$ ; alar. 9-10 lin.

Ferruginous. Head pale, luteous above, with white tomentum beneath. Proboscis piceous. Antennæ pale, ferruginous. Thorax with three black stripes, the side pair short. Wings slightly grey, yellow at the base, brownish in front and along the borders of the veins. *Abdomen long*; third and following segments with hoary tomentum on each side of the base.

Not rare. (E.)

4. **fasciata**, Meig. Kl. I. 286. 4 (1804); Mcq.—*ephippium*, F. Ferruginea, capite antice subtusque albedo, thoracis disco nigricante, *alis subcinereis basi subflavis, abdomine supra nigro, apice maculisque lateralibus cano-tomentosis*. Long. 4; alar. 7 lin.

Ferruginous. Head whitish in front and beneath. Proboscis piceous. Antennæ paler towards the tips. Disc of the thorax blackish. Wings

pale grey, with a slight yellowish tinge at the base and along the adjoining part of the fore border. Halteres pale, testaceous. *Abdomen black above*, covered with hoary tomentum towards the tip, and with spots of the same along each side.

Rare. In the late Mr. Stephens's collection. (E.)

5. *atra*, F. E. S. iv. 397. 3 (1781); Pz.; Fal.; Meig.; Mcq.; Zett. —*annulata*, F. —*femorata*, F. —*tibialis*, F. —*cinerascens*, Meig. —*maculata*, Meig. —*micans*, Meig. —*pusilla* (Meg.), Meig. —*fulvipes*, Desv.; Mcq.; Meig.; Curt.! B. E. 677. *Nigra*, capite albido vertice fulvo, antennarum articulo tertio subtus fulvo, alis subcinereis, abdominis maculis utrinque apiceque cano-tomentosis. Long. 2–3; alar.  $3\frac{1}{2}$ – $5\frac{1}{2}$  lin.

*Black*. Head tawny above the antennæ, whitish in front and beneath. Antennæ with the third joint tawny beneath, except at the tip. Wings pale grey. Halteres pale, testaceous. Abdomen covered, with hoary tomentum at the tip, and with spots of the same along each side. Hind femora tawny, black towards the tips.

Not rare. (E. S.)

#### SUBFAMILY 2. TACHINIDÆ.

*Tachinariæ*, Mcq.; Meig.; Westw. *Zoobiæ*, *Entomobiæ*, *Botanobiæ*, et *Phasianææ*, Desv. *Tachinaridæ* et *Phasidæ*, Bigot.

*Arista nuda aut pubescens aut basi plumosa*. *Thorax brevis*. *Alulæ magnæ*. *Pedes longitudine mediocres*.

*Arista bare or pubescent or plumose at the base*. *Thorax short*. *Alulæ large*. *Legs of moderate length*.

Parasites of other insects.

The form of the body, of the antennæ, and of the veins of the wings, in this subfamily, is very variable; the præbrachial vein is abbreviated in a few species, but in all the rest it forms a flexure, as in the three following subfamilies. With a few exceptions the individuals are scarce and the species numerous, but the reverse of this rule is more characteristic of the *Muscides*. Their highly-developed structure and their rapid flight at once distinguish them from all the following groups. They may be divided into the following genera:—

a. Abdomen depressed. PHASIA.

a a. Abdomen not depressed.

b. Abdomen arched, recurved beneath at the tip.

c. Præbrachial vein joining the cubital before its tip. OCYPTERA.

c c. Præbrachial vein joining the costal. PHANIA.

b b. Abdomen not arched nor recurved.

- c. Abdomen globose. GYMNOSOMA.  
 c c. Abdomen not globose.  
 d. Proboscis long, geniculated. BUCENTES.  
 d d. Proboscis not geniculated.  
 e. Head tumid. GONIA.  
 e e. Head not tumid. TACHINA.

Genus I. **PHASIA.**

PHASIA, Latr. G. C. (1809); Coq.; Meig. Zw. iv.; Wied.; Curt.; Zett.  
*Conops* p., L. *Syrphus* p., F.; Ross. *Musca* p., Gmel.; Pz.; Lam.;  
 Hbst. *Thereva* p., F.; Pz. *Rhizomyzides*, Fal.; Zett. I. L. *Pha-*  
*sianeæ*, Desv.; Mcq.; Meig. Zw. vii.; Westw. *Phasiareæ*, Zett. D. S.  
*Phasidæ*, Bigot.

Corpus latum. Alæ latæ. *Abdomen depressum.*

Body and wings broad. Eyes bare. *Abdomen depressed.*

The species may be grouped in accordance with the variations of the præbrachial vein.

- a. Præbrachial vein joining the cubital vein before its tip.  
 b. Præbrachial vein very oblique between its flexure and the cubital vein, which it joins near the tip of the latter.—*Phasia*, Desv.; Mcq.; Westw.—*Alophora*, Meig. Zw. vii. Species 1.  
 b b. Præbrachial vein hardly oblique between its flexure and its junction with the cubital, which junction is remote from the tip of the latter.—*Hyalomyia*, Desv.; Mcq.; Westw. Species 2, 3.  
 a a. (British?) Præbrachial vein joining the tip of the cubital.—*Elomyia*, Desv.; Mcq.; Westw.—*Ananta*, Meig.

1. **subcoleoptrata**, L. S. N. 11. 1006. 13 (1763); F.; Gmel.; Meig.; Fal.; Latr.; Pz. Fn. lxxiv. 13, 14; Mcq.; Desv.; Zett.—*hemiptera*, F.; Latr.; Meig.; Mcq.; Desv.; Zett.—*affinis*, F.; Pz.—*tristis*, Hbst.; Schell.; Schæf. Ic. pl. 71. f. 6. Nigra, capite antice argenteo, palpis albis, alis subcinereis fœminæ fusco variis, thoracis abdominisque lateribus fulvis. Long. 4–5½; alar. 8–12 lin.

Black. Head white. Face, facialia, and epistoma testaceous. Facialia bristly along three-fourths of the length. Palpi white. Antennæ not half so long as the face; third joint subelliptical, very much longer than the second; sixth minutely pubescent, near thrice the length of the third. Thorax tawny. Wings grey; costal vein ending at the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at two-thirds of the length; radial vein ending at about nine-tenths of the length; cubital vein ending at the tip; præbrachial vein forming a gentle curve at its flexure, joining the cubital at some distance from the tip of the latter; discal transverse vein curved inward in the middle, parted from the border by hardly

half its own length. Alulæ whitish. Sides of the abdomen tawny. *Fœm.* Wings more or less brown in front and at the tips.

Rare. (E.)

2. **obesa**, Fb. E. S. suppl. 561. 6 (1794); Latr.; Meig.; Desv.; Mcq.—*speciosa*, Curt. ! B. E. 697. *Cana*, capite antice argenteo, antennis abdomine basi pedibusque nigris, thorace nigro-quadrivittato, alis subcinereis fusco variis. Long.  $2\frac{1}{2}$ –3; alar. 6–7 lin.

Head black, with hoary tomentum, white in front. Antennæ black. Thorax with four black stripes. Wings pale grey, more or less brownish about the middle of the fore border, and towards the tips and along the transverse veins; costal vein ending at the tip of the wing; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at much beyond half the length; radial vein ending at about eleven-twelfths of the length; cubital vein joining the costal at its tip; discal transverse vein more or less curved inward, parted from the border by hardly half its own length. Alulæ white.

Rare. (E.)

3. **pusilla**, (Hoffm.) Meig. Zw. iv. 198. 23 (1824); Desv.; Mcq.; Curt.; Zett.—*semicinerea*, Meig.; Desv.; Mcq.; Curt.; Zett. *Nigra*, capite antice albo-tomentoso, alis hyalinis, abdomine apicem versus cano-tomentoso. Long.  $1\frac{1}{2}$ –2; alar. 2– $3\frac{1}{2}$  lin.

Black. Head white in front. Facialia bristly along full half the length. Antennæ reaching beyond half the length of the face; third joint linear, rounded at the tip, very much longer than the second; sixth very minutely pubescent, hardly twice the length of the third. Wings hyaline; costal vein ending at the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at about half the length; radial vein ending at about seven-eighths of the length; cubital vein ending at the tip; præbrachial vein much curved at its flexure, joining the cubital at far from the tip of the latter; discal transverse vein almost straight, parted from the border by about half its own length. Alulæ white, very large. Abdomen hoary towards the tip.

Rare. (E.)

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## Genus II. OCYPTERA.

OCYPTERA, Latr. G. C. iv. (1809); F. S. A.; Oliv.; Lam.; Meig.; Mcq.; Desv.; Curt.; Loew; Winnertz; Westw.; Zett. *Musca* p., L.; F. Sp. I.; D. G.; Schr.; Ross.; Gmel. *Syrphus* p., Pz. *Rhizomyza* p., Fal. *Ocypteratæ* p., Desv.; Mcq.; Westw. *Parthenia*, Desv.

Corpus augustum. Palpi brevissimi. Arista triarticulata, nuda. Vena

*præbrachialis cubitali ante apicem conjuncta. Abdomen cylindricum, arcuatum, sublus recurvum.*

Body narrow, linear. Palpi very short. Fourth and fifth joints of the antennæ distinct; sixth bare. *Præbrachial vein united to the cubital at some distance from the tip of the latter. Abdomen cylindrical, arched, recurved beneath at the tip; first segment long.*

a. Third joint of the antennæ twice the length of the second. Sp. 1.

a a. Third joint of the antennæ less than twice the length of the second. Species 2.

1. **brassicaria**, F. S. I. 11. 443. 36 (1781); Gmel.; Latr.; Fal.; Meig.; Mcq.; Desv.; Curt. ! B. E. 629; Loew; Zett.—*cylindrica*, D. G.—*segnis*, Pz.; Schell.; Schæff. Nigra, capite argenteo, thorace cano nigro-quadrivittato, alis cinereis dimidio antico basali flavescente, abdomine rufo vitta interrupta dorsali apiceque nigris. Long. 5; alar. 8 lin.

Black. Head silvery-white. Frontalia deep black, slightly widening at each end. Epistoma pale yellow. Antennæ reaching the epistoma; third joint almost fusiform; sixth very stout towards the base, near thrice the length of the fourth and fifth. Thorax hoary, with four slender black stripes on the fore part. *Wings grey, yellowish along half the length beneath the costa; præbrachial vein forming at its flexure a well-defined hardly obtuse angle, which emits a very short appendage, beyond this it is undulating, and joins the cubital vein at some distance from the tip of the latter. Alulæ white. Abdomen red, with a widely interrupted black stripe, which is dilated and triangular at the base; third and following segments black.*

Rare. (E.)

2. **cylindrica**, F. S. A. 313. 2 (1805); Meig.; Mcq.; Desv.; Winnertz; Loew; Zett. Nigra, capite argenteo, thoracis lateribus anticis canis, alis cinereis antice subfuscis, abdomine segmentorum secundi et tertii lateribus rufis. Long. 3–3½; alar. 5–6 lin.

Black, shining. Head silvery-white. Frontalia deep black. Antennæ almost reaching the epistoma; third joint fusiform. Thorax hoary on each side in front. Wings grey, brownish along the fore border; præbrachial vein forming an obtuse angle, and emitting a very short branch at its flexure, near which it is very slightly curved inward, but has a more distinct outward curve near its junction with the cubital. Alulæ white. *Second and third abdominal segments red, hind border of the latter and a dorsal stripe black.*

Rare. In the collections of Mr. Desvignes and of the late Mr. Stephens. (E.)

Genus III. **PHANIA.**

**PHANIA**, Meig. Zw. iv. 218 (1824); Desv.; Mcq.; Zett.; Westw.

Corpus lineare. Arista nuda. *Vena præbrachialis costali ad alæ apicem connexa. Abdomen cylindricum, arcuatum, subtus recurvum, segmento primo longo.*

Body linear. Sixth joint of the antennæ bare. *Præbrachial vein forming a curve at its flexure, joining the tip of the costal vein. Abdomen cylindrical, arched, recurved beneath at the tip; first segment long.* Sexualia of the male long.

1. **thoracica**, Meig. Zw. iv. 220. 4 (1824); Mcq.; Zett. Nigra, capite argenteo, *thorace cano nigro-quadrivittato*, alis cinereis, alulis albidis, halteribus ferrugineis, abdomine subtus fusco. Long. 3; alar. 6 lin.

Black, shining. Head silvery-white; frontalia deep black, slightly widening from the ocelli to the antennæ; facialia without bristles; epistoma not prominent. Antennæ nearly reaching the epistoma; third joint straight above, slightly convex beneath, rounded at the tip, about twice the length of the second; fourth and fifth very short; sixth slender, stout for nearly one-fourth of the length from the base. *Thorax* with hoary tomentum, *which encloses four slender black stripes.* Wings grey; costal vein ending at a little behind the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little before half the length; cubital vein joining the costal near its tip; præbrachial vein much curved at its flexure, very slightly curved inward from thence to its tip; discal transverse vein nearly straight, parted from the border by a little more than half its own length. Alulæ dingy white. Halteres ferruginous. Abdomen brownish beneath.

Rare. In the late Mr. Stephens's collection. (E.)

2. **curvicauda**, Fal. Msc. 17. 33 (1810); Meig. ! Zw. iv. pl. 40. f. 10; Desv.; Mcq.; Boh.; Zett. Nigra, capite argenteo, *epistomate prominente, thoracis lateribus anticis vittisque duabus canis*, alis cinereis, alulis albis. Long.  $1\frac{3}{4}$ ; alar. 3 lin.

Black, shining. Head silvery; frontalia deep black, linear from the eyes to the antennæ; facialia without bristles; *epistoma prominent.* Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, twice the length of the second; fourth and fifth very short; sixth slender, stout for about one-fifth of the length from the base. *Thorax hoary on each side in front, and with two hoary stripes.* Wings grey; costal vein ending at the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at before half the length; cubital vein joining the costal very near its tip; præbrachial vein slightly curved at its flexure, almost straight from thence



to its tip; discal transverse vein almost straight, parted from the border by hardly less than its own length. Alulæ white.

Rare. In the late Mr. Stephens's collection. (E.)

#### Genus IV. **GYMNOSOMA.**

**GYMNOSOMA**, Fal. Rhiz. 9. 1; Latr.; Meig.; Desv.; Mcq.; Zett. *Musca* p., L.; F.; D. G.; Schr.; Geoff.; Schæff.; Gmel.; Ross.; Har.; Pz.; Lam.; Don. *Tachina* p., F. *Ocyptera* p., Latr. *Gymnosomeæ*, *Rhizomyzæ*, Fal. *Gastrodeæ*, Desv. *Gymnosomees*, Mcq.; Westw.

Corpus breve, latum. Caput mediocre; frons plerumque lata. Antennæ articulo sexto nudo. *Abdomen globosum*, setis nullis.

Body short, broad. Head of moderate size; front generally broad. Fourth and fifth joints of the antennæ distinct; sixth bare. *Abdomen globose, without bristles.*

1. **rotundata**, L. F. S. 1838 (1761); F.; D. G.; Schr.; Gmel.; Ross.; Pz.; Fal.; Desv.; Latr.; Lam.; Meig. ! Zw. iv. pl. 39. f. 21; Desv.; Mcq.; Zett.—*cerinus*, Har.; Geoff.; Schæff. Nigra, capite aurato antice albo, thorace luteo-tomentoso nigro-quadrivittato, alis subcinereis. Long. 3; alar. 6 lin.

Black. Head gilded above, whitish in front, white beneath and behind. Frontalia ferruginous. Facialia without bristles. Epistoma slightly prominent. Antennæ longer than the face; second joint subclavate; third sublinear, indistinctly curved, rounded at the tip, a little longer than the second, testaceous at the base; sixth stout, testaceous towards the base, a little longer the third. Thorax luteous in front, with four black stripes, the outer pair interrupted. Wings slightly grey, yellowish at the base; costal vein ending at a little above the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at a little before seven-eighths of the length; cubital vein ending at a little above the tip; præbrachial vein much curved at its flexure, straight from thence to its tip, which joins the cubital near the tip of the latter; discal transverse vein very slightly undulating, its distance from the border about one-third of its own length. Alulæ large, whitish, with yellow borders. Halteres luteous. Abdomen luteous, black at the base, and with four black dorsal spots, the first connected with the black at the base, a black spot on each side at the tip.

Rare. (E.)

Genus V. **BUCENTES.**

BUCENTES, Latr. G. C. iv. 339 (1809). *Musca* p., D. G. *Stomoxys* p., F.; Fal. *Siphona*, Meig.; Mcq.; Westw.; Zett. *Syphona*, Desv.

*Proboscis elongata, gracilis, filiformis, basi medioque geniculata.* Antennæ subdeflexæ, articulis primo et secundo parvis, tertio elongato, lineari, obtuso. *Arista nuda, triarticulata, geniculata.*

*Proboscis long, slender, filiform, geniculated at the base and in the middle.* Antennæ slightly deflected; first and second joints short; third long, linear, obtuse; fourth and fifth distinct; sixth bare, forming an angle with the fifth.

1. **geniculatus**, D. G. I. vi. 20. 15 (1752); Fal.; Meig.! Zw. pl. 37. f. 25; Desv.; Mcq.—*minutus*, F.; Pz.—*cinereus*, Latr.; Lam.; Meig.; Desv.—*cristatus, tachinarius*, F.—*nigro-vittatus*, Meig.— *analis*, Meig.—*quadrinotatus*, Desv.—*tristis*, Desv.—*pusillus*, Desv.—*fuscicornis*, Desv.—*consimilis*, Desv.— *analis*, Desv.—*melanoceras*, Desv.—*testaceus*, Desv.—*humeralis*, Desv.—*sylvaticus*, Desv.—*clausus*, Desv. Niger, capite testaceo supra fulvo-tomentoso subtus albo-tomentoso, antennis basi fulvis, scutello apice testaceo, alis subcinereis, femoribus tibiisque fulvis; *Mas*, abdomine testaceo vitta dorsali apiceque nigris. Long.  $1\frac{3}{4}$ – $2\frac{1}{2}$ ; alar.  $3\frac{1}{2}$ –5 lin.

Black. Head pale, testaceous, fawn-coloured above, white beneath; frontalia ferruginous; palpi pale, testaceous; facialia without bristles; epistoma not prominent; eyes bare; palpi short, tawny. Antennæ almost reaching the epistoma; first and second joints tawny; third linear, rounded at the tip, of the male four times, of the female thrice the length of the second; sixth stout, much longer than the third. Scutellum testaceous at the tip. Wings very slightly grey; costal vein ending hardly above the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending a little beyond one-third of the length; radial vein ending at about five-sixths of the length; cubital vein ending at very little above the tip; præbrachial vein forming a gentle curve at its flexure, almost straight from thence to its tip, which joins the tip of the costal; discal transverse vein hardly curved inward, parted from the border by very much more than its own length. Alulæ whitish. Halteres testaceous. Legs tawny; tarsi black. Abdomen of the male testaceous; dorsal stripe and tip black.

Very common. (E. S. I.)

Genus VI. **GONIA.**

GONIA, Meig. Zw. v. 1. (1826); Mcq.; Curt.; Westw.; Zett. *Musca* p., D. G. *Tachina* p., Fal. *Iligera*, Meig. Zw. vii. *Gonidæ*, Desv.

Corpus robustum. *Caput tumidum.* Facies verticalis. *Arista geniculata, articulo secundo longo.* Ungues et onychia minuta.

Body stout. *Head tumid.* Face vertical. *Antennæ* reaching the epistoma; third and fifth joints very long; *sixth bare, forming an angle with the fifth.* Ungues and onychia small.

The British species also agree in the following characters:—

Black. Head large, tawny, covered with shining white tomentum, thickly clothed beneath and behind with tawny hairs; front more prominent in the male than in the female; frontalia broad; face rather deeply concave; facialia bristly along rather more than half the length; epistoma slightly prominent; mediana luteous; eyes bare; palpi testaceous. *Antennæ* reaching the epistoma; third joint slender, linear, rounded at the tip, more than four times longer than broad; fourth very short; fifth very little shorter than the sixth; sixth short, stout, forming an angle with the fifth. Thorax covered with brownish tomentum, which is interrupted by four slender irregular black stripes. Costal vein terminating considerably above the tip of the wing, a little beyond where the præbrachial meets it; subcostal vein ending beyond one-third of the length, mediastinal vein ending beyond half the length of the costa; radial vein ending at four-fifths of the length; cubital vein ending very near the tip of the præbrachial; præbrachial vein forming an obtuse angle at its flexure, near which it is very slightly curved inward, and thence continues almost straight to its tip; discal transverse vein with two very slight curves, parted from the border by very little less than its own length. Alulæ white, very large. Abdomen subovate, slightly tessellated with white tomentum. Ungues tawny at the base. Onychia pale testaceous.

*a.* Abdomen tawny on each side. Species 1.

*a a.* Abdomen black on each side. Species 2.

1. **capitata**, D. G. I. vi. 23. 12. 2. pl. 1. f. 3 (1763); Fal.; Meig.; Desv.; Mcq.; Curt.; Zett.—*ornata*, Meig.—*vittata*, Meig.—*divisa*, (Meg.) Meig.—*vacua*, Meig.—*auriceps*, Meig.; Curt.—*vernalis*, Desv.—*bombylans*, Desv.—*melanura*, Desv. Antennis basi fulvis, scutello et nonnunquam thoracis lateribus ferrugineis, alis subcinereis, *abdominis lateribus basi ad medium rufo-fulvis.* Long.  $4\frac{1}{2}$ – $5\frac{1}{2}$ ; alar. 8–11 lin.

First and second joints of the antennæ tawny; third tawny at the base. Scutellum, and frequently the sides of the thorax, ferruginous. Wings slightly grey; veins black, testaceous at the base. *Abdomen reddish-tawny on each side from the base to the middle.* Male. Frontalia buff. Fem. Frontalia luteous.

Not rare. (E.)

2. **ruficeps**, Fln. Msc. 4. 3 (1810); Meig.; Curt.! B. E. 533; Zett.—*fasciata*, Meig. Scutello piceo, alis cinereis, *abdominis segmentorum marginibus anticis albo-tomentosis.* Long. 5; alar. 10 lin.

Frontalia ferruginous or brown. Scutellum piceous. Wings grey;

veins black, ferruginous at the base. *Abdomen with a band of white tomentum on the fore border of each segment.*

Rare. In the collections of Mr. Desvignes and of the late Mr. Stephens. (E.)

## Genus VII. **TACHINA.**

*Tachina* et *Miltogramma*, Meig. Zw. iv. 234 (1824). *Tachina* p., F.; Fal.

*Caput non tumidum. Proboscis non geniculata. Abdomen oblongum, convexum, setosum.*

*Head not tumid. Proboscis straight. Abdomen oblong, convex, bristly.*

In *Tachina* the variations of the bristles, of the antennæ, and of the veins of the wings, are very numerous, and serve as specific distinctions rather than as characters of genera, for which they have been used by Desvoidy, Macquart, and Meigen. The species may be grouped thus:—

a. Second joint of the antennæ very long; third generally very short.—*Tachina* A, Meig. Zw. iv. 239. pl. 40. f. 1, 5, 22.—*Echinomyia*, Dmr. H. N. (1807); Latr.; Mcq.; Westw.; Meig. Zw. vii.; Zett.—*Macromyda*, Desv. Facialia not bristly. Frontalia widening from the ocelli to the eyes, with numerous black bristles along their borders, two very stout bristles on each side behind; face with a slight furrow on each side; epistoma prominent, with a few bristles on each side, one of them very stout; peristoma with bristles along each border; eyes bare; proboscis piceous. Fourth and fifth joints of the antennæ very distinct; sixth bare; costal vein ending when the præbrachial meets it at some distance in front of the tip of the wing; subcostal vein ending at more than one-third of the length of the fore border; mediastinal vein ending at less than two-thirds of the length of the fore border; radial vein ending at about four-fifths of the length of the fore border; cubital vein joining the costal very near its tip.

b. Second joint of the antennæ more than four times longer than deep. Species 1.

b b. Second joint of the antennæ more than thrice longer than deep.

c. Third joint of the antennæ much shorter than the second.

d. Palpi filiform. Species 2, 3.

d d. Palpi subclavate. Species 4.

c c. Third joint of the antennæ a little or hardly shorter than the second. Species 5, 6.

a a. Third joint of the antennæ longer than the second, but not twice its length.—*Tachina* B, Meig. Zw. iv. 246. pl. 40. f. 2.—*Tachinarie* p., Desv.—*Tachina* p., Mcq.—*Clytia*, Desv.; Mcq.

- b*. Costal vein and præbrachial vein ending at some distance in front of the tip of the wing; præbrachial vein much curved; flexure without a branch, or with a very short one.—*Tachina* B. a. p., Meig. Zw. iv. 246. pl. 40. f. 22.—*Microcera*, Desv.—*Nemoræa*, Mcq.—*Carcelia* p., Desv.—*Senometopia* p., Mcq.
- c*. Eyes hairy.
- d*. Body not or hardly metallic.
- e*. Epistoma prominent. Species 7–9.
- e e*. Epistoma slightly prominent. Species 10–12.
- e e e*. Epistoma not prominent. Species 13–15.
- d d*. Body golden-green.—*Gymnochæta*, Desv.—*Chrysosoma*, Mcq.; Meig. Zw. vii. pl. 70. f. 6–11; Westw. Sp. 16.
- c c*. Eyes bare. Species 17–20.
- b b*. Costal vein ending at far in front of the tip of the wing.
- c*. Præbrachial vein much curved, flexure emitting a long branch.—*Tachina* B. b, Meig. Zw. iv. 258. pl. 40. f. 23.—*Anthophilæ*, Desv.—*Micropalpus*, Mcq.; Meig. Zw. vii. Species 21.
- c c*. Præbrachial vein straight from near its flexure to its tip. Eyes hairy.—*Tachina* B. c, Meig. Zw. iv. 263. pl. 40. f. 28.—*Nemoræa* p., et *Macquartia* p., Meig. Zw. vii. Species 22.
- b b b*. Costal vein and præbrachial vein ending at or near the tip of the wing.—*Tachina* B. d, Meig. Zw. iv. 267. pl. 40. f. 30.
- c*. Eyes hairy.—*Macquartia* p., *Erebis*, *Labidigaster*, et *Harrisia* p., Meig. Zw. vii.
- d*. Præbrachial vein forming a right angle at the flexure. Sp. 23.
- d d*. Præbrachial vein forming a very obtuse angle at the flexure. Species 24–27.
- c c*. Eyes bare.—*Clytia*, *Tachina* p., et *Macquartia* p., Meig. Zw. vii.
- d*. Abdomen black. Species 28–31.
- d d*. Abdomen luteous. Species 32.
- b b b b*. Præbrachial vein united to the cubital vein near the tip of the wing.—*Tachina* B. e, Meig. Zw. iv. 280. pl. 40. f. 26.
- d*. Eyes bare.—*Ptiloceratæ*, Desv.—*Ptilocera*, Mcq.—*Gagatiæ* p., Desv.—*Melanophora* p., Meig. Kl.; Latr.; Mcq.—*Cistogaster* p., *Olista* p., *Leucostoma* p., et *Panzeria* p., Meig. Zw. vii. Species 33.
- d d*. Eyes hairy.—*Ocyptera* p., F.; Fal.—*Oliviera*, Desv.—*Sericocera* p., Mcq.—*Panzeria* p., Meig. Zw. vii. Species 34.
- b b b b b*. Præbrachial vein united to the cubital vein at some distance from the tip of the wing. Eyes bare.—*Tachina* B. f, Meig. Zw. iv. 284. pl. 40. f. 25.—*Melanophora*, *Plesina*, *Gymnosoma* p., *Rhinophora* p., et *Leucostoma* p., Meig. Zw. vii.
- c*. Sixth joint of the antennæ stout for one-third of the length, or nearly so. Species 35, 36.
- c c*. Sixth joint of the antennæ stout at the base.
- d*. Sixth joint of the antennæ minutely pubescent. Sp. 37, 38.

- d d.* Sixth joint of the antennæ shortly plumose. Sp. 39–41.
- a a a.* Third joint of the antennæ nearly twice or even thrice longer than the second.—*Erycinæ* p., *Agridæ* p., et *Bombomydæ* p., Dvd.—*Miltogramma*, Meig.; Latr.; Desv.; Mcq.; Curt.; Westw.; Zett.—*Brachyceratæ*, Desv.—*Graosomæ* p., Desv.—*Myobia* p., Mcq.
- b.* Costal vein and præbrachial vein ending at some distance in front of the tip of the wing.—*Tachina* C. a, Meig. Zw. iv. 292. pl. 40. f. 3, 24.—*Lydella*, Mcq.—*Faunida* p., Desv.
- c.* Eyes bare.—*Erycinæ* p., Desv.—*Pales* p., Desv.—*Senomotopia* p., Mcq.—*Faunida* p.—(*Salia*, *Lydella*, *Athrycia*, et *Lypha*), Desv.—*Lydella*, Mcq.—*Tachina* p., *Plagia*, et *Oliviera*, Meig. Zw. vii.—*Fabricia*, Meig. Zw. vii.
- d.* Proboscis short.
- e.* Facialia without bristles.
- f.* Sixth joint of the antennæ stout at the base. Sp. 42–44.
- ff.* Sixth joint of the antennæ stout for one-fourth of the length. Species 45, 46.
- fff.* Sixth joint of the antennæ stout for one-third of the length. Species 47–49.
- ffff.* Sixth joint of the antennæ stout for one-half of the length. Species 50, 51.
- fffff.* Sixth joint of the antennæ stout for three-quarters of the length. Species 52, 53.
- ffffff.* Sixth joint of the antennæ stout for more than three-quarters of the length. Species 54, 55.
- fffffff.* Sixth joint of the antennæ stout for the whole length. Species 56.
- e e.* Facialia bristly for one-sixth of the length.
- f.* Sixth joint of the antennæ bare. Species 57–59.
- ff.* Sixth joint of the antennæ plumose. Species 60.
- e e e.* Facialia bristly for one-fourth of the length.
- f.* Frontalia ferruginous. Species 61, 62.
- ff.* Frontalia black.
- g.* Sixth joint of the antennæ stout for one-fourth of the length. Species 63.
- g g.* Sixth joint of the antennæ stout for one-third of the length. Species 64, 65.
- g g g.* Sixth joint of the antennæ stout for more than one-third of the length. Species 66, 67.
- g g g g.* Sixth joint of the antennæ stout for one-half the length. Species 68–71.
- g g g g g.* Sixth joint of the antennæ stout till near the tip. Species 72.
- e e e e.* Facialia bristly for one-third of the length.
- f.* Scutellum ferruginous. Species 73.
- ff.* Scutellum black.

- g. Face vertical. Species 74-76.  
 g g. Face more or less oblique. Species 77-79.  
 e e e e e. Facialia bristly for more than one-third of the length. Species 80.  
 e e e e e e. Facialia bristly for half the length. Species 81.  
 e e e e e e e. Facialia bristly for two-thirds of the length. Species 82, 83.  
 d d. Proboscis long.—*Rhamphina* p., Mcq. D. 12.—*Oliviera*, Meig. Zw. vii. Species 84.  
 c c. Eyes hairy.—*Sturmia*, Desv.—*Winthemia*, Desv.—*Carcelia* p., Desv.—*Senometopia* p., Mcq.—*Exorista* p., Meig. Zw. vii.—*Phorocera* p., Mcq.; Meig. Zw. vii.  
 d. Facialia without bristles.  
 e. Sixth joint of the antennæ stout for nearly the whole length. Species 85, 86.  
 e e. Sixth joint of the antennæ stout for half the length. Species 87, 88.  
 e e e. Sixth joint of the antennæ stout for one-third of the length. Species 89.  
 e e e e. Sixth joint of the antennæ stout at the base. Sp. 90.  
 d d. Facialia bristly for one-sixth of the length. Species 91.  
 d d d. Facialia bristly for one-fourth of the length. Sp. 92-98.  
 b b. Costal vein and præbrachial vein ending at or near the tip of the wing.—*Tachina* C. b, Meig. Zw. iv. 341. pl. 40. f. 3, 30.  
 c. Eyes bare. Arista straight.—*Tryphora* p., Meig. Zw. vii.—*Actia*, Meig. Zw. vii.—*Roeselia*, Meig. Zw. vii.  
 d. Facialia without bristles.  
 e. Sixth joint of the antennæ stout for three-fourths of the length. Species 99.  
 e e. Sixth joint of the antennæ stout for more than half the length. Species 100.  
 e e e. Sixth joint of the antennæ stout at the base.  
 f. Palpi tawny or yellow. Species 101-103.  
 f f. Palpi black, with a ferruginous band near the tip. Species 104.  
 f f f. Palpi black. Species 105, 106.  
 d d. Facialia bristly for one-eighth of the length. Species 107.  
 d d d. Facialia bristly for one-fourth of the length. Species 108-112.  
 d d d d. Facialia bristly for one-third of the length. Species 113-117.  
 c c. Eyes hairy.—*Phorocera* p., Meig. Zw. vii.—*Harrisia* p., Meig. Zw. vii.—*Exorista* p., Meig. Zw. vii.  
 d. Facialia without bristles.  
 e. Sixth joint of the antennæ stout along the whole length. Species 118.

- e e*. Sixth joint of the antennæ stout along half the length. Species 119, 120.
- e e e*. Sixth joint of the antennæ stout for near half the length. Species 121.
- e e e e*. Sixth joint of the antennæ stout for one-third of the length. Species 122.
- e e e e e*. Sixth joint of the antennæ stout at the base. Species 123, 124.
- d d*. Facialia bristly for one-sixth of the length. Sp. 125, 126.
- d d d*. Facialia bristly for one-fourth of the length. Sp. 127.
- d d d d*. Facialia bristly for one-third of the length. Sp. 128.
- d d d d d*. Facialia bristly for half the length. Sp. 129, 130.
- d d d d d d*. Facialia bristly along the whole length. Sp. 131.
- b b b*. Præbrachial vein united with the cubital vein near the tip.—*Tachina* C. c, Meig. Zw. iv. 366. pl. 40. f. 3, 26.
- c*. Eyes bare.—*Dufouridæ*, Desv.—*Cassidæmyia*, Mcq. Species 132–135.
- c c*. Eyes hairy.—*Senometopia* p., Mcq.—*Macquartidæ* p., Desv.—*Zophomyia* p., Mcq.—*Tryphora* p., Meig. Zw. vii.—*Phorocera* p., Mcq.; Meig. Zw. vii.
- a a a a*. Third joint of the antennæ four or six times longer than the second. (Only thrice longer in *T. antiqua*.)
- b*. Costal vein and præbrachial vein ending at some distance in front of the tip of the wing; præbrachial vein slightly curved or straight between the flexure and the tip.—*Tachina* D. a, Meig. Zw. iv. 370. pl. 40. f. 4, 27, 28.
- c*. Eyes bare.—*Pales* p., Desv.—*Zenillia*, Desv.—*Phryno*, Desv.—*Senometopia* p., Mcq.—*Eurigaster* p., Mcq.—*Phryxæ* p., Desv.—*Masicera* p., Mcq.; Meig. Zw. vii.—*Faunidæ* p., Desv.—*Metopia*, Meig. Kl. Zw. vii.; Mcq.—*Degeeria* p., Meig. Zw. vii.—*Frontina*, Meig. Zw. vii.—*Myobia* p., Mcq.; Meig. Zw. vii.—*Miltogramma* p., Meig. Zw. vii.
- d*. Abdomen tawny. Species 136.
- d d*. Abdomen black.
- e*. Facialia without bristles. Species 137, 138.
- e e*. Facialia bristly for one-sixth of the length. Sp. 139.
- e e e*. Facialia bristly for one-fourth of the length. Species 140, 141.
- e e e e*. Facialia bristly for half the length. Species 142.
- e e e e e*. Facialia bristly for more than half the length. Species 143–145.
- e e e e e e*. Facialia bristly along the whole length. Species 146, 147.
- c c*. Eyes hairy.—*Phryxæ* p., Desv.—*Masicera* p., Mcq.—*Tryphora* p., Meig.—*Phorocera* p., Mcq.; Meig. Zw. vii.—*Harrisia* p., Meig. Zw. vii.—*Exorista* p., Meig. vii.



- d.* Facialia without bristles. Species 148.  
*d d.* Facialia bristly for one-fourth of the length. Species 149, 150.  
*d d d.* Facialia bristly for one-half of the length. Sp. 151–156.  
*d d d d.* Facialia bristly for three-fourths of the length. Species 157.  
*d d d d d.* Facialia bristly for nearly the whole length. Species 158.  
*b b.* Costal vein and præbrachial vein ending near the tip of the wing.—*Tachina* D. b, Meig. Zw. iv. 400. pl. 40. f. 4, 30.—*Phryno* p., Desv.—*Eurigaster* p., Mcq.—*Graosomæ* p., Desv.—*Myobia* p., Mcq.  
*c.* Eyes bare.—*Roeselia*, Desv.—*Degeeria* p., Meig. Zw. vii.—*Masicera* p., Meig. Zw. vii.  
*d.* Sixth joint of the antennæ forming an angle with the fifth. Species 159.  
*d d.* Sixth joint of the antennæ not forming an angle with the fifth. Species 160–163.  
*c c.* Eyes hairy.—*Doria*, Meig. Zw. vii.—*Phorocera* p., Meig. Zw. vii. Species 164, 165.  
*b b b.* Præbrachial vein united to the cubital near the tip.—*Tachina* D. c, Meig. Zw. iv. 416. pl. 40. f. 4, 26.  
*c.* Eyes bare.—*Baumhaueria*, Meig. Zw. vii.—*Masicera* p., Meig. Zw. vii.—*Hypostena*, Meig. Zw. vii. Species 166.  
*c c.* Eyes hairy.—*Fallenia*, Meig. Zw. vii.—*Exorista* p., Meig. Zw. vii. Species 167.  
*b b b b.* Præbrachial vein united to the cubital at some distance from the tip. Eyes bare.—*Tachina* D. d, Meig. Zw. iv. 418. pl. 40. f. 4, 25.—*Scopolia*, Meig. Zw. vii. Species 168.

1. **grossa**, L. Fn. 1837 (1761); D. G.; Gmel.; Pz.! Fn. xxx. 21; Dmr.; Latr.; Fal.; Meig.; Mcq.; Desv.; Zett.; Réaum.; Hbst.; Har. Picea, capite flavo, antennis fulvis, alis hyalinis, alulis cinereis, pedibus nigris. Long. 8; alar. 18 lin.

Piceous. Head yellow. Frontalia ferruginous, slightly striated. Epistoma very prominent. Palpi yellow. Antennæ tawny; third joint black, tawny at the base, deepening from the base to the tip, which is truncated, hardly half the length of the second; fifth a little longer than the fourth, the two full one-third of the length of the sixth. Wings hyaline, slightly yellow at the base; præbrachial vein forming a hardly obtuse angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein with the hind curve less distinct than the fore one, its distance from the border less than its own length. Alulæ dark grey. Legs black; tibiæ red beneath.

Not common. (E.)

2. **fera**, L. F. S. 1836 (1761); F.; Gmel.; Schr.; Pz.! Fn. xx. 18; Meig.; Mcq.; Desv.; Zett.—Geoff.; Schell.; Hbst.— *analis*, Desv.—*intermedia*, Desv.—*nigrofemorata*, Desv.—*rubricornis*, Desv.—*testacea*, Desv.—*errans*, Desv.—*vernalis*, Desv.—*virgo*, Meig.; Mcq.; Zett.—*magnicornis*? Zett.—*ferina*? Zett. Nigro-cinerea, capite flavo, antennis fulvis apice nigris, articulo tertio secundi dimidio paullo longiore, humeris scutelloque fulvis, alis subcinereis basi subflavescentibus, abdomine testaceo, vitta dorsali nigra, pedibus testaceis, femoribus basi nigris. Long.  $5\frac{1}{2}$ ; alar. 12 lin.

Head yellow; frontalia ferruginous; palpi yellow. Antennæ tawny; third joint black, tawny at the base, deepening from the base to the tip, which is truncated, a little more than half the length of the second; fifth joint more than twice the length of the fourth; the second less than one-third of the length of the sixth. Thorax greyish-black; humeral scapulae and scutellum tawny. Wings greyish, slightly yellow along the veins towards the base; præbrachial vein forming an almost right angle at its flexure, near which it forms an inward curve, and thence is straight to its tip. Alulae white. Abdomen testaceous, with a broad black dorsal stripe; tip ferruginous. Legs testaceous; femora black towards the base.

Not rare. (E.)

3. **tessellata**, F. E. S. iv. 324–5 (1794); Meig.; Mcq.; Desv.; Zett.—*fera* var.  $\gamma$ , Fal.—*nigricornis*? Meig. Nigra, capite argenteo antice testaceo, antennarum articulo tertio secundi dimidio multo longiore, thorace cano-tomentoso nigro-quadrivittato, scutello ferrugineo, alis cinereis, abdomine rufo-fulvo, vitta dorsali apiceque nigris, tibiis posterioribus piceis. Long. 5–6; alar. 10–12.

Head testaceous in front; frontalia ferruginous, widening in front; epistoma prominent; palpi testaceous. Antennæ reaching the epistoma; second joint deepening towards the tip, where its depth is one-third of its length; third very convex above, slightly truncated at the tip, much shorter and deeper than the second. Thorax with four black stripes; scutellum ferruginous. Wings grey, with a slight brown streak extending from the flexure of the præbrachial vein; middle transverse vein clouded with brown; præbrachial vein forming a right angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein with two slight and equal curves, parted from the border by a little less than its own length. Alulae white. Abdomen reddish-tawny; dorsal stripe and tip black, the latter with white tomentum. Posterior tibiæ piceous.

Rare. In Mr. Desvignes's collection. (E.)

4. **ferox**, Pz.! Fn. 104. 20; Meig.; Desv.; Mcq.; Zett.—*rotundata*, Har. Nigra, capite cinereo-tomentoso, palpis clavatis fulvis basi nigris, alis hyalinis basi subflavescentibus, abdomine testaceo, vitta dorsali apiceque nigris. Long. 7; alar. 13 lin.

Black. Head tinged with grey, testaceous on each side of the face and of the peristoma; frontalia piceous; *palpi* tawny, *subclavate*, black towards the base. Antennæ black; third joint deepening from the base to the tip, which is truncated, full two-thirds of the length of the second; fifth longer than the fourth, the second hardly one-third of the length of the sixth. Wings hyaline, slightly yellow at the base; præbrachial vein forming an almost right angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with the hind curve less distinct than the other. Alulæ white. First, second, and third segments of the abdomen testaceous, excepting an irregular black dorsal stripe.

Not common. (E.)

5. **ursina**, Meig. Zw. iv. 245. 11 (1824); Desv.; Mcq.; Zett.—*pilosa*, Desv.; Meig.; Mcq.—*subpilosa*, Mcq.; Meig. Nigra, fulvo-hirta, capite fulvo-tomentoso, palpis fulvis, *antennarum articulo tertio secundo paullo brevior*e, scutello apice fulvo, alis cinereis, abdominis lateribus anticis fulvis, segmentorum marginibus anticis testaceis, tarsis basi tibiisque ferrugineis. Long. 7; alar. 14 lin.

Black. Head thickly clothed above and in front with black hairs, behind and beneath with yellow hairs; frontalia deep black; palpi tawny. *Third joint* of the antennæ almost linear, rounded towards the tip, *a little shorter* but hardly broader than the second; fifth more than twice the length of the fourth, the two less than one-third of the length of the sixth. Thorax and abdomen thickly clothed with tawny hairs, among which are a few black bristles. Scutellum tawny towards the hind border. Wings grey; præbrachial vein forming a very slightly obtuse angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein straight, excepting a very slight and short outward curve in front. Alulæ dingy white. Abdomen subovate, a little broader than the thorax, tawny on each side towards the base; segments testaceous on the fore borders. Tarsi towards the base and tibiæ ferruginous.

Not common. (E.)

6. **lurida**, F. S. I. 11. 441. 29 (1781); Gmel.; Meig.; Mcq.—*leucocoma*, Meig.; Mcq.—*cucullia*, Desv.—*lateralis*, Desv. Nigro-cinerea, facie alba, palpis flavis, antennis nigris, *articulo tertio secundo vix brevior*e, scutello fulvo, alis subcinereis, abdominis lateribus anticis pedibusque testaceis, femoribus nigris. Long. 5-5½; alar. 10-11 lin.

Greyish-black, clothed with yellow hairs, beset with black bristles. Head a little narrower than the thorax, thickly clothed with pale yellow hairs behind and beneath; frontalia dark, ferruginous, not striated; face shining white. Lateralia testaceous. Palpi yellow. Antennæ black, not reaching the epistoma; *third joint* deepening from the base, rounded at the tip, *hardly shorter* than the second; fifth full twice the length of the fourth, the two less than one-third of the length of the

sixth. Scutellum tawny. Wings slightly grey; præbrachial vein forming an obtuse angle at its flexure, near which it is very slightly curved inward, and is thence almost straight to its tip; discal transverse vein almost straight behind, very slightly curved outward in front. Alulæ white. Abdomen subovate, broader than the thorax, testaceous on each side towards the base. Legs testaceous; coxæ and femora black.

Not common. (E.)

7. **cæsia**, Fal. Msc. 27. 55 (1810); Meig.; Zett. Nigra, cinereo-tomentosa, capite cano, *palpis nigris*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine subtessellato. Long. 5; alar. 10 lin.

Frontalia black, linear; bristles of the front descending hardly lower than the base of the antennæ; face vertical; facialia without bristles. *Palpi black*. Antennæ reaching the epistoma; second joint full twice longer than deep; third linear, rounded at the tip, a little longer than the second; fourth and fifth distinct; sixth stout for more than half the length, a little less than twice the length of the third; subcostal vein ending at full one-third of the length of the fore border; mediastinal vein ending at more than half the length of the wing; radial vein ending at beyond five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a hardly obtuse angle at its flexure, which emits a very short branch, curved inward from thence to its tip; discal transverse vein with two distinct curves, parted from the hind border by less than its length, and from the flexure of the præbrachial by less than half its length.

Rare. In Mr. Desvignes's collection. (E.)

8. **detracta**, n. Nigra, cinereo-tomentosa, capite cano, *palpis fulvis*, *antennarum articulo tertio secundo paullo longiore*, thorace nigro-quadrivittato, alis cinereis, alulis albidis, abdominis lateribus rufis. Long.  $4\frac{1}{2}$ ; alar. 11 lin.

Frontalia black; bristles of the front hardly descending lower than the base of the antennæ; face vertical; facialia bristly along one-fourth of the length. *Palpi tawny*. Antennæ not reaching the epistoma; second joint full twice longer than deep; *third* sublinear, rounded at the tip, *a little longer than the second*; sixth very minutely pubescent, stout towards the base, nearly twice the length of the third. Thorax with four slender stripes. Costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein at beyond half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right angle at its flexure, near which it is curved inward, and is thence straight to the tip; discal transverse vein with two distinct curves, parted by half its length from the hind border, and by a little less than half from the flexure of the præbrachial. Abdomen slightly tessellated.

Rare. In Mr. Desvignes's collection. (E.)

9. **puparum?** F. E. S. iv. 326. 58 (1792); Meig.—*tricincta*, Fal. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, antennis basi rufis, *articulo tertio secundo longiore*, thorace nigro-quadrivittato, scutelli apice rufescente, alis cinereis, alulis albidis. Long. 4½–5; alar. 11–12 lin.

Frontalia piceous, widening in front; bristles of the front descending to one-fourth of the face; face vertical; facialia without bristles. *Palpi tawny*. Antennæ nearly reaching the epistoma; second joint red, nearly thrice longer than broad; *third* slightly convex above, beneath, and at the tip, *longer than the second*; fourth very short; fifth rather long; sixth bare, stout for two-thirds of the length, nearly twice the length of the third; præbrachial transverse vein clouded with brown; cubital vein ending at a short distance in front of the tip of the wing; subcubital vein ending at beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at about seven-eighths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a right but not sharply-defined angle at the flexure, much curved inward between this and the tip; discal transverse vein with two slight curves, parted by hardly half its length from the flexure of the præbrachial and from the border. Abdomen short, elliptical, tessellated; first segment black.

Rare. In Mr. Desvignes's collection. (R.)

10. **dispartita**, n. Viridi-nigra, cano-tomentosa, capite albo, *antennarum articulo tertio secundo vix longiore*, thorace nigro-trivittato, alis subcinereis, alulis albis. Long. 4½; alar. 9 lin.

Frontalia piceous, slightly widening in front; bristles of the front descending to one-sixth of the face; face vertical; facialia bristly for one-eighth of the length. Epistoma pale testaceous. Lateralia red. Antennæ not reaching the epistoma; second joint red at the tip, full twice longer than deep; *third* straight above, convex beneath, rounded at the tip, *hardly longer than the second*; fourth very short; fifth short; sixth bare, stout for two-thirds of the length, much longer than the third. Costal vein ending at some distance in front of the tip; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at a little beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a right angle at the flexure, which emits a very short branch, curved inward near this; discal transverse vein nearly straight, parted by much less than its length from the border and from the flexure of the præbrachial, rather nearer to the latter than to the former. Abdomen short-elliptical, much broader than the thorax.

Rare. In the late Mr. Stephens's collection. (E.)

11. **intracta**, n. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, *antennarum articulo tertio secundo multo longiore*, thorace nigro-trivittato,

*scutello rufo*, alis cinereis, alulis albis, abdomine picco. Long. 5; alar. 10 lin.

Frontalia ferruginous, widening in front; face vertical; bristles of the front not descending lower than the base of the antennæ; facialia bristly for one-eighth of the length. Antennæ nearly reaching the epistoma; second joint red, twice longer than deep; *third* linear, rounded at the tip, *much longer than the second*; fourth indistinct; fifth short; sixth bare, stout for half the length, very much longer than the third; thorax with three black stripes, the middle one very broad. *Scutellum red*. Costal vein ending at somewhat in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at much beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a slightly acute angle at the flexure, much curved inward near this, straight from thence to the tip; discal transverse vein with two distinct curves, parted by about half its length from the flexure of the præbrachial and from the border; præbrachial transverse vein clouded with brown. Abdomen obconical. Rare. In the late Mr. Stephens's collection. (E.)

12. **bijuncta**, n. Nigra, cinereo-tomentosa, capite albo, *antennarum articulo tertio secundo multo longiore*, thorace nigro-quadrivittato, alis subcinereis, alulis subcinereis, alulis albis, abdomine subovato tessellato. Long. 4; alar. 8 lin.

Black, covered with grey tomentum. Head shining-white, thickly clothed beneath and behind with pale yellow hairs; frontalia deep black, hardly widening in front; bristles of the front descending to one-third of the face; facialia without bristles; epistoma slightly prominent. Lateralia red. Palpi long. Antennæ not reaching the epistoma; *third joint* sublinear, a little narrower at the base than near the tip, which is rounded, broader, and *much longer than the second*; sixth nearly twice the length of the third; second stout for full one-third of the length. *Scutellum black*. Wings slightly grey; costal vein terminating a little in front of the tip of the wing; subcostal vein ending beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein with an inward curve midway between the tip and the right angle, which it forms at its flexure; discal transverse vein with two very indistinct curves, parted from the border much more than half its length, and by one-third of its length from the flexure of the præbrachial.

Rare. (E.)

13. **contracta**, n. Nigra, cano-tomentosa, capite albo, *facialibus usque ad quartam setosis, palpis fulvis*, thorace nigro-quinquevittato, scutello apice rufo, alis subcinereis basi subfuscis, alulis albis, abdomine brevi-elliptico tessellato. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black, broad, slightly widening in front; bristles of the front descending to one-fourth of the face; face vertical; *facialia* bristly to one-fourth of the length; *palpi* tawny. Antennæ almost reaching the epistoma; second joint nearly twice longer than deep, red at the tip; third sublinear, truncated, mostly red on the inner side, very much longer than the second; fourth and fifth red; fourth very short; fifth rather long; sixth red at the base, bare, stout for rather more than half the length, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at a little beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, almost straight from thence to the tip; discal transverse vein with two very slight curves, parted by rather more than half its length from the border and from the flexure of the præbrachial.

Rare. In the late Mr. Stephens's collection. (E.)

14. **arvensis** ? Meig. Zw. iv. 337. 269 (1824). Nigra, cano-tomentosa, capite albo, thorace nigro-trivittato, *facialibus usque ad quartam setosis*, alis subhyalinis, alulis subcinereis, abdomine obconico, segmento primo marginibus posticis vittaque dorsali nigris. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia widening in front; bristles of the front descending to beyond one-third of the face; face vertical; *facialia* bristly to one-fourth of the length; *palpi* black. Antennæ reaching the epistoma; second joint about twice longer than deep; third linear, rounded at the tip, much longer than the second; fourth and fifth very short; sixth bare, stout for one-third of the length, more than twice the length of the third. Thorax with four black stripes. Wings grey, brown at the base; costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, nearly straight from thence to the tip; discal transverse vein with two very distinct curves, parted by less than its length from the flexure of the præbrachial, and by more than half its length from the border. Alulæ greyish. Abdomen oval, tessellated. Legs very slender.

Rare. In Mr. Desvignes's collection. (E.)

15. **neglecta**, n. Nigra, cinereo-tomentosa, capite albedo, *facialibus usque ad tertiam setosis*, palpis fulvis, thorace nigro-trivittato, alis cinereis basi subfulvis, alulis cinereis, abdominis segmentorum marginibus anticis canis. Long. 6; alar. 12 lin.

Frontalia deep black, widening much in front; bristles of the front hardly descending lower than the base of the antennæ; face very slightly

oblique; *facialia* bristly to one-third of the length. Antennæ not reaching the epistoma; first and second joints tawny; second about twice longer than deep; third slender, linear, rounded at the tip, longer than the second; fourth and fifth very short; sixth tawny towards the base, stout for one-third of the length from the base, more than twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at a little before four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right angle at its flexure, near which it is slightly curved inward, and is thence straight to its tip; discal transverse vein with two curves, which are very slight, distant rather more than half its own length from the border, and rather less than half from the flexure of the præbrachial vein.

Rare. In Mr. Desvignes's collection. (E.)

16. **viridis**, Fal. Msc. 25. 51 (1810); Meig.; Mcq.; Zett. *Aureo-viridis, cyaneo varia*, capite argenteo, antennis pedibusque nigris, alis subcinereis, alulis albis. Long. 5; alar. 10 lin.

Bright golden-green, more or less bluish-green beneath; bristles of the front not descending along the face; frontalia piceous; mediana dark red; epistoma not prominent. Antennæ not reaching the epistoma; third joint indistinctly concave above, almost linear, rounded at the tip, longer than the second; costal vein ending a little above the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at very little beyond half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal vein very near its tip; præbrachial vein with a branch at its flexure, which forms a very slightly oblique angle, thence after a very gentle inward curve it continues almost straight to its tip; discal transverse vein parted from the border by much more than half its own length, and by much more than half its length from the flexure of the præbrachial.

Not rare in woods during the spring. (E. S.)

17. **flavescens**? Meig. Zw. iv. 294. 98.—*fasciata*, Fal. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis. Long.  $4\frac{1}{2}$ ; alar.  $8\frac{1}{2}$  lin.

Front yellowish; frontalia deep black, widening in front; bristles of the front descending to three-fourths of the face; face vertical; *facialia* bristly to one-fourth of the length; epistoma not prominent; *palpi* tawny. Antennæ not reaching the epistoma; second joint full twice longer than deep; third sublinear, obliquely truncated at the tip, much longer than the second; fourth very short; fifth rather long; sixth bare, stout for more than one-third of the length, very much longer than the third. Costal vein ending at far in front of the tip of the



wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at half of the length; radial vein ending at four-fifths of the length; cubital vein ending at near the tip of the costal; præbrachial vein forming a right angle at the flexure, which emits a long branch, curved inward near this, and thence almost straight to the tip; discal transverse vein with two distinct curves, parted by much less than its length from the flexure of the præbrachial, and by more than its length from the border. Abdomen long, obconical; base, tip, hind borders of segments, and dorsal stripe black.

Rare. In Mr. Desvignes's collection. (E.)

18. **defecta**, n. Nigra, cano-tomentosa, capite albo, *palpis nigris apice fulvis*, thorace nigro-trivittato, alis subcinereis, alulis albis, abdomine elliptico tessellato. Long. 5; alar. 9 lin.

Frontalia deep black, widening in front; bristles of the front not descending along the face; face vertical; facialia bristly along one-sixth of the length; epistoma not prominent; *palpi clavate, with tawny tips*. Antennæ nearly reaching the epistoma; second joint longer than deep; third linear, rather deep, rounded at the tip, much longer than the second; fourth very short; fifth rather short; sixth pubescent, stout for one-third of the length, twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very slightly obtuse angle at the flexure, slightly curved inward from thence to the tip; discal transverse vein with two very slight curves, parted by about half its length from the flexure of the præbrachial and from the border. Alulæ white. Abdomen elliptical, tessellated.

Rare. In Mr. Desvignes's collection. (E.)

19. **æstiva** ? Meig. Zw. iv. 278. 68 (1824). Nigra, cano-tomentosa, capite albo, *setis frontalibus usque ad faciei quartam extensis*, thorace nigro-quadrivittato, alis cinereis, alulis albis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Head white in front; frontalia piceous, widening in front; bristles of the front descending to one-fourth of the face; face vertical; facialia bristly to one-sixth of the length; epistoma not prominent; *palpi black*. Antennæ nearly reaching the epistoma; second joint nearly twice longer than deep; third truncated, slightly convex beneath, very much longer than the second; fourth indistinct; fifth very short; sixth bare, stout for full one-third of the length, twice the length of the third. Costal vein with a spine at the tip of the subcostal, ending at some little distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at five-sixths of the length; cubital vein forming an obtuse angle at the flexure, very

slightly curved inward from thence to the tip; discal transverse vein with two indistinct curves, parted by much less than its length from the flexure of the præbrachial and from the border. Abdomen elliptical; hind borders of the segments black.

Rare. In Mr. Desvignes's collection. (E.)

20. **stabulans** ? Meig. Zw. iv. 306. 115 (1824). Nigra, cano-tomentosa, capite albo, *setis frontalibus faciem quarta excepta includentibus*, thorace nigro-quadrivittato, alis cinereis, alulis albis. Long. 3; alar. 6 lin.

*Bristles of the front descending to three-fourths of the face*; rather narrow; face vertical; facialia without bristles; epistoma not prominent; *palpi black*. Antennæ almost reaching the epistoma; second joint nearly twice longer than deep; third linear, rounded at the tip, very much longer than the second; fourth very short; fifth rather long; sixth bare, stout for more than one-third of the length, twice the length of the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at three-fourths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, which emits a long branch, near this it is very slightly bent inward, and is thence straight to the tip; discal transverse vein much curved inward behind the middle, parted by a little more than half its length from the flexure of the præbrachial, and by a little less than its length from the border. Abdomen long, obconical; base, tip, dorsal stripe, and hind borders of the segments black and shining.

Rare. In Mr. Desvignes's collection. (E.)

21. **vulpina**, Fal. Msc. 23. 47 (1810); Meig. ! vii. pl. 70. f. 18; Mcq.; Zett. Nigra, cano-tomentosa, capite flavo albo-tomentoso, thorace nigro quinquevittato, humeris scutelloque testaceis, alis et alulis subcinereis, *abdomine ferrugineo albo tessellato* nigro-vittato, pedibus fulvis, tarsis nigris. Long. 5; alar. 9 lin.

Frontalia luteous; face vertical; bristles of the front descending to one-fourth of the length of the face; facialia without bristles; epistoma prominent; palpi black. Antennæ black, almost reaching the epistoma; second joint thrice longer than deep; third as long as the second, increasing in breadth from the base to the tip, which is truncated; sixth stout, bare, about twice the length of the third. Subcostal vein about one-third of the length of the wing; mediastinal vein about half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very slightly obtuse angle at its flexure, which emits a very long branch, beyond this it is very slightly inclined inward, and is thence almost straight to its tip; transverse veins slightly clouded with brown; discal transverse vein almost straight, excepting a slight outward curve

near its tip, parted from the border by very much more than its own length, and by one-fourth of its length from the flexure of the præbrachial. Abdomen ferruginous, with a black stripe, tessellated with white.

Not rare. (E. S.)

22. **analis**, Desv. E. M. 54. 4 (1830). Nigra, cinereo-tomentosa, capite albo, thorace nigro-quadrivittato, scutello ferrugineo, *abdomine nigro*, alis cinereis, alulis albidis, abdomine obconico tessellato. Long.  $5\frac{1}{2}$ ; alar. 11 lin.

Frontalia widening in front; bristles of the front descending to one-third of the face; face vertical; facialia without bristles; epistoma prominent. Antennæ nearly reaching the epistoma; second joint almost twice longer than deep; third sublinear, rather deep, very much longer than the second, rounded at the tip; fourth short; fifth rather long; sixth bare, tapering from the base to the tip, twice the length of the third. *Abdomen black*. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at much beyond one-third of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a right angle at the flexure, which emits a branch, curved inward near this, and thence straight to the tip; discal transverse vein with two indistinct curves, parted by one-third of its length from the flexure of the præbrachial, and by much less than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

23. **viridulans**, n. Nigra, cano-tomentosa, capite albo, thorace nigro-trivittato, alis cinereis basi subfuscis, alulis subcinereis, abdomine ovato nigro-viridi vix tessellato. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia piceous; bristles of the front descending to one-third of the face; facialia without bristles; epistoma pale testaceous, slightly prominent; lateralia red. Antennæ nearly reaching the epistoma; third joint a little longer than the second, increasing in breadth towards the tip, which is slightly rounded; fifth longer; sixth stout, especially towards the base, nearly twice the length of the third; costal vein ending at very little in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at beyond four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein emitting a short branch at its flexure, very slightly curved inward from thence to its tip; discal transverse vein with the fore curve very slight, the hind one hardly perceptible, parted from the border and from the flexure of the præbrachial more than half its length.

Not common. (E.)

24. **senea**, Meig. Zw. iv. 273. 60 (1824); Mcq.; Zett.—*atrata*,

Fal. Nigra, cinereo-tomentosa, capite albo, thorace nigro-quadrivittato, alis at alulis cinereis, *abdomine* obconico *æneo*, tibiis ferrugineis. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black; bristles of the front descending nearly along the whole face; face vertical; facialia with bristles along one-sixth of the length; epistoma not prominent. Antennæ not reaching the epistoma; second joint nearly twice longer than deep; third sublinear, longer than the second, rounded at the tip; fourth almost obsolete; fifth very short; sixth bare, stout at the base, more than twice the length of the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the costal; præbrachial vein forming a very obtuse angle at its flexure, hardly curved inward from thence to the tip; discal transverse vein with two distinct curves, parted by much more than half its own length from the flexure of the præbrachial, and by little more than half from the border. *Abdomen slightly æneous*.

Rare. In the late Mr. Stephens's collection. (E.)

25. **corusca**, Meig. Zw. iv. 273. 61 (1824). *Ænea*, capite albo, thorace vix vittato, alis sublimpidis, alulis subcinereis, *abdomine* longi-ovato *cupreo*. Long. 3; alar. 5 lin.

Frontalia red, widening in front; bristles of the front descending to half the length of the face; face vertical; facialia without bristles; epistoma slightly prominent; lateralia red. Antennæ reaching the epistoma; second joint very much longer than deep; third nearly linear, rising in front, truncated, nearly twice longer than the second; fourth short; fifth long; sixth pubescent, stout to the tip, longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a rounded and very obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein with two very indistinct curves, parted by a little more than its length from the flexure of the præbrachial, and by a little less from the border. *Abdomen cupreous*.

Rare. In Mr. Desvignes's collection. (E.)

26. **chalybeata**, Meig. Zw. iv. 271. 56 (1824); Mcq.; Zett. Nigra, capite albo, *alis cinereis* basi et antice subfuscis, alulis cinereis, *abdomine* longi-ovato *nigro*. Long. 4; alar. 8 lin.

Bristles of the front descending along one-fourth of the face; face vertical; facialia without bristles along one-eighth of the length; epistoma not prominent; eyes hairy. Antennæ not reaching the epistoma; second joint much longer than deep; third linear, rounded at the tip,

nearly twice the length of the second; fourth and fifth very short; sixth very minutely pubescent, stout for one-fourth of the length from the base, more than twice the length of the third. Wings grey, with a brownish tinge at the base and in front; costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at less than one-third of the length; mediastinal vein ending at less than half of the length; radial vein ending at about five-sixths of the length; cubital vein ending very near the costal; præbrachial vein forming a very obtuse and not sharply-defined angle at its flexure, straight from thence to the tip; discal transverse vein with two distinct curves, parted by much less than its length from the flexure of the præbrachial, and by half its length from the border. Alulæ grey. *Abdomen* elongate oval, *black*.

Not common. (E.)

27. **tremula**, L. S. N. iii. c. 152 (1767); F.; Schr. F. B.; Gmel.; Fal.; Mcq.; Zett.—*grossa*, Schr. I. A. Nigra, cinereo-subtomentosa, capite albo, *alis albidis*, venis luteis fulvo subnebulosis, alulis albis, *abdomine longi-ovato nigro*. Long. 4; alar. 8 lin.

Frontalia deep black, broad, linear; bristles of the front descending along one-fourth of the face; face slightly oblique; facialia with bristles along one-sixth of the length; epistoma not prominent; eyes hairy. Antennæ almost reaching the epistoma; first and second joints ferruginous at the tips; second very much longer than deep; third sub-linear, slightly truncated, nearly twice the length of the second; fourth and fifth short; sixth very minutely pubescent, stout for one-fourth of the length, full twice the length of the third. Wings whitish, slightly tawny along the luteous veins; costal vein ciliated, with a spine at the tip of the subcostal, ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending at near the end of the costal; præbrachial vein forming a very obtuse angle at its flexure, hardly curved inward from thence to the tip; discal transverse vein with two very indistinct curves, parted by hardly less than its length from the flexure of the præbrachial, and by much less from the border. *Abdomen black*.

Not common. (E.)

28. **intercedens**, n. Nigra, cano-tomentosa, capite argenteo, *thorace nigro-quadrivittato*, *alis cinereis* basi testaceis, alulis flavo-albis, abdomine subelliptico, segmentorum marginibus posticis nigris. Long. 4; alar. 8 lin.

Frontalia deep black, widening in front; face vertical; bristles of the front descending to one-sixth of the face; facialia bristly for one-sixth of the length; epistoma not prominent; eyes bare. Antennæ almost reaching the epistoma; second joint much longer than deep;

third linear, subtruncated, longer by half than the second; fourth almost obsolete; fifth very short; sixth bare, stout for half the length, nearly twice the length of the third; thorax with four black stripes. Wings grey, testaceous at the base; costal vein ending at very little in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein with two slight curves, parted by little less than its length from the flexure of the præbrachial, rather nearer to the border.

Rare. In the late Mr. Stephens's collection. (E.)

29. **reclusa**, n. Nigra, gracilis, cano-subtomentosa, capite albo, *thorace nigro-trivittato*, *alis subcinereis*, alulis albis, abdomine fusiformi e maculis nigris trivittato. Long.  $2\frac{1}{2}$ ; alar.  $4\frac{1}{2}$  lin.

Frontalia concave, with grey tomentum; bristles of the front not descending along the face; facialia without bristles; epistoma testaceous and slightly prominent; eyes bare. Antennæ not reaching the epistoma; third joint rounded at the tip, very little longer than the second; sixth plumose and stout towards the base, more than twice the length of the third; thorax with three black stripes. Wings slightly grey; costal vein ending where the præbrachial meets it at some little distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending before half the length; radial vein ending at a little beyond three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two very slight curves, parted from the hind border by more than its length, and by much more than half its length from the flexure of the præbrachial.

Not common. (E.)

30. **interclusa**, n. Nigra, gracilis, cinereo-subtomentosa, capite cano, *thorace non vittato*, *alis cinereis*, alulis albis, abdomine cylindrico. Long.  $1\frac{1}{2}$ ; alar.  $3\frac{1}{2}$  lin.

Bristles of the front descending to one-fourth of the face; facialia without bristles; epistoma slightly prominent; eyes bare. Antennæ not reaching the epistoma; third joint very broad, straight above, convex beneath, very oblique at the tip, longer than the second; sixth pubescent and stout towards the base, almost twice the length of the third; *thorax not striped*. Wings grey; costal vein ending in front at some distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at a little before four-fifths of the length; cubital vein slightly undulating, joining the costal very near its tip;

præbrachial vein forming an obtuse angle at its flexure, near which it is very slightly curved inward, and is thence straight to its tip; discal transverse vein with two slight curves, parted from the hind border by rather less than twice its own length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

31. **roralis**, L. Fn. 1846 (1761); F.; Schr.; Gmel.; Fal.; Desv.; Meig.; Mcq.; Desv.; Zett.—*grossificationis*, L.; F.; Schr.; Gmel.; Desv.—*intercentum*, Har. Atræ, gracilis, alis nigricantibus, marginibus posticis pallidioribus apice albis, alulis nigricantibus, abdomine subcylindrico. Long. 2; alar.  $3\frac{1}{2}$  lin.

Frontalia not shining; bristles of the front descending to half of the length of the face; facialia slightly concave, beset with bristles along nearly the whole length; epistoma not prominent; eyes bare. Antennæ not near reaching the epistoma; third joint linear, rounded at the tip, a little longer than the second; sixth minutely pubescent, full thrice the length of the third. *Wings blackish*, pale along the hind border, with a white spot on the hind part of each tip; costal vein ending in front at a little distance from the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at before one-third of the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal at its tip; præbrachial vein forming an obtuse and not sharply-defined angle at its flexure, and another very obtuse angle near its tip, which joins the cubital far from the tip of the latter; discal transverse vein indistinctly inclined outward, parted from the hind border and from the flexure of the præbrachial by about thrice its length.

Generally distributed. (E. S. I.)

32. **continua**, Panzer! Fn. lx. 19; Meig. Nigra, aureo-subtomentosa, subtus albida, capite argenteo, alis sublimpidis, alulis flavo-albis, abdomine brevi-obconico luteo cinereo-vittato. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Head broad; frontalia black, very narrow; bristles of the front descending to one-fourth of the length of the face; face vertical; facialia without bristles; epistoma not prominent; eyes bare. Antennæ not reaching the epistoma; second joint hardly longer than deep; third subfusiform, more than twice the length of the second; fourth very short; fifth long; sixth bare, stout to the tip, much longer than the third. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a gentle curve at its flexure, very slightly curved inward from thence to its tip; discal transverse vein with two slight curves, parted by less than its length from the flexure

of the præbrachial, and by half its length from the border. *Abdomen luteous.*

Rare. In the late Mr. Stephens's collection. (E.)

**33. *intercepta*, n.** Nigra, cano-subtomentosa, capite albo, *oculis nudis*, palpis fulvis, thorace nigro-trivittato, alis cinereis basi et apud venas subfuscis, alulis albis, abdomine ovato. Long.  $2\frac{3}{4}$ ; alar.  $5\frac{1}{2}$  lin.

Frontalia dull black; bristles of the front descending to one-eighth of the face; facialia without bristles; epistoma not prominent; *eyes bare*; palpi tawny. Antennæ not reaching the epistoma; third joint about twice longer than broad, rounded at the tip, a little longer than the second; sixth minutely pubescent, stout towards the base, much more than twice the length of the third. Costal vein ending a little above the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending before half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very obtuse but sharply-defined angle at its flexure, almost straight from thence to its tip, which joins the cubital near the tip of the latter; discal transverse vein with two very slight curves, parted by hardly less than its length from the flexure of the præbrachial and from the border. Var.  $\beta$ , discal transverse vein emitting a short branch on the inner side.

Rare. (E.)

**34. *lateralis*, F. S. I. ii. 443. 37 (1781);** Schr.; Gmel.; Meig.—*rufomaculata*, D. G.—*tachinaria*, Fal.; Schell. ! G. M. pl. 3. f. 3. Nigra, cinereo-tomentosa, capite albo, *oculis hirtis*, thorace nigro-quadrivittato, alis cinereis apud venas fuscis, alulis albis, *abdomine fusiformi rufo*, vitta dorsali apiceque nigris. Long. 3–4; alar. 6–8 lin.

Frontalia deep black, slightly widening in front; bristles of the front descending to one-fourth of the face; face vertical; facialia bristly for one-sixth of the length; epistoma not prominent; *eyes hairy*. Antennæ reaching the epistoma; second joint more than twice longer than deep; third straight above, slightly convex beneath, rounded at the tip, very little longer than the second; fourth and fifth long; sixth minutely pubescent, stout for more than one-third of the length, nearly twice the length of the third. Costal vein with a spine at the tip of the subcostal, ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at hardly beyond half of the length; radial vein ending at about four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, straight from thence to the tip, which joins the cubital near the tip of the latter; discal transverse vein with the hinder curve deeper than the fore one, parted by a little less than its length from the border, and by a little more than half its length from the flexure



of the præbrachial. *Abdomen* fusiform, *red*; dorsal stripe and tip black.

Not rare. (E.)

35. **simplex**, Fal. Rhzm. 8. 10 (1810); Meig. Nigra, capite albo antice testaceo, *antennarum articulo sexto ad trientem incrassato*, palpis fulvis, alis limpidis, alulis albis, abdomine subfusiformi. Long.  $1\frac{3}{4}$ ; alar. 3 lin.

Frontalia piceous; bristles of the front descending to one-eighth of the face; facialia without bristles; epistoma very slightly prominent; palpi very short; eyes bare. *Antennæ* not reaching the epistoma; third joint rounded towards the tip, a little longer than the second; *sixth* minutely pubescent, *stout for one-third of the length from the base*, more than twice the length of the third. Wings limpid; costal vein ending where the cubital meets it at a short distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at about five-sixths of the length; præbrachial vein forming a slightly obtuse angle at its flexure, which emits a short branch, from thence it is almost straight to its tip, and joining the cubital very far from the tip of the latter; discal transverse vein slightly curved inward in the middle, parted by much more than its length from the flexure of the præbrachial and from the border; *Male*, præbrachial vein forming a very obtuse angle at its flexure, which does not emit a branch; discal transverse vein much curved inward.

Rare. (E.)

36. **caminaria**, n. Nigra, capite argenteo, *antennarum articulo sexto fere ad trientem incrassato*, alis cinereis antice subfuscis, alulis albis, abdomine longi-elliptico. Long. 3; alar. 5 lin.

Frontalia deep black; bristles of the front descending to one-fourth of the face; face vertical; facialia without bristles; epistoma not prominent; eyes bare. *Antennæ* not reaching the epistoma; second joint longer than deep; third linear, rounded at the tip, longer than the second; fourth indistinct; fifth short; *sixth* pubescent, *stout for near one-third of the length*, more than twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at much before half of the length; radial vein ending at four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at its flexure, straight from thence to the tip, which joins the cubital far from the tip of the latter; discal transverse vein hardly curved outward, parted by its length from the flexure of the præbrachial, and by a little more from the border.

Rare. In the late Mr. Stephens's collection. (E.)

37. **interlatens**, n. Nigra, gracilis, cinereo-subtomentosa, capite

albo, *antennarum articulo sexto tertio plus duplo longiore*, alis cinereis, alulis albis, abdomine fusiformi. Long.  $1\frac{3}{4}$ ; alar. 3 lin.

Frontalia black; bristles of the front not descending along the face; facialia short, slightly concave, without bristles; epistoma not prominent; eyes bare. *Antennæ* not reaching the epistoma; third joint linear, rounded at the tip, longer than the second; *sixth more than twice the length of the third*. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at much before half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal at its tip; præbrachial vein forming an obtuse angle at its flexure, almost straight from thence to its tip, which joins the cubital at some distance from the tip of the latter; discal transverse vein straight, parted by much more than its length from the flexure of the præbrachial and from the border.

Rare. (E.)

38. **expetita**, n. Nigra, gracilis, capite albo, *antennarum articulo sexto tertio triplo longiore*, alis cinereis, alulis albis, abdomine cylindrico lateribus albo subtessellatis. Long.  $1\frac{3}{4}$ ; alar. 3 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; facialia without bristles; epistoma slightly prominent; eyes bare. *Antennæ* not reaching the epistoma; third joint linear, rounded at the tip, longer than the second; *sixth about thrice the length of the third*. Wings grey; costal vein ending at very little in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at long before half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal at its tip; præbrachial vein forming an obtuse and not sharply defined angle at its flexure, from whence it is almost straight to its tip, which joins the cubital at some distance from the tip of the latter; discal transverse vein straight, its distance from the hind border much more than its length from the border, and by less than twice its length from the flexure of the præbrachial.

Rare. (E.)

39. **atramentaria**, Meg.; Meig. Zw. iv. 291. 93 (1824). Nigra, cano-tomentosa, capite albo, thorace nigro-trivittato, alis cinereis basi et apud venas subfuscis, *vena præbrachiali cubitali conjuncta*, alulis albidis, abdomine fusiformi, dorso et marginibus posticis nigris. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; facialia without bristles; epistoma not prominent; eyes bare; palpi slender. *Antennæ* not reaching the epistoma; third joint sublinear, almost truncate at the tip, much longer than the second, about twice the length of the third; thorax with three black stripes. *Wings* grey, brownish at the base and along the veins; costal vein

ending a little above the tip of the wing; subcostal vein much less than one-third of the length; mediastinal vein ending at a little more than one-third of the length; radial vein ending at a little beyond three-fourths of the length; *præbrachial vein* forming an obtuse and not sharply defined angle at its flexure, almost straight from thence to its tip, which joins the cubital far from the tip of the latter; discal transverse vein with two hardly perceptible curves, parted by very much more than its own length from the border, and by more than its length from the flexure of the *præbrachial*. Alulæ whitish. Abdomen fusiform.

Not rare. (E.)

40. **anthracina**, Meig. Zw. iv. 289. 90 (1824). Nigra, nitens, *alis cinereis, venis cubitali et præbrachiali non conjunctis*, alulis albidis, abdomine longi-obconico cinereo-tomentoso marginibus posticis nigris. Long. 3; alar. 6 lin.

Frontalia deep black, widening in front; bristles of the front descending along the whole face; face vertical; facialia bristly for half the length; epistoma not prominent; eyes bare. Antennæ not reaching the epistoma; second joint longer than deep; third linear, rounded at the tip, longer than the second; fourth and fifth very short; sixth more than twice the length of the third. *Wings grey*; costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at a little before five-sixths of the length; *præbrachial vein* forming a very obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein straight, with the exception of a very slight hinder inward curve, parted by a little less than its length from the flexure of the *præbrachial*, and by much less from the border. Alulæ whitish. Abdomen long-obconical, with grey tomentum, excepting the hind borders of the segments.

Rare. In the late Mr. Stephens's collection. (E.)

41. **interlapsa**, n. Nigra, gracilis, *alis alulisque nigricantibus, venis cubitali et præbrachiali conjunctis*, abdomine subcylindrico. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Bristles of the front descending to one-third of the face; face slightly oblique; facialia beset with bristles for one-third of the length; epistoma slightly prominent; eyes bare. Antennæ not near reaching the epistoma; third joint not much longer than broad, rounded at the tip, a little longer than the second; sixth joint four times? longer than the third. *Wings blackish*; costal vein ending at very little in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at before half the length; radial vein ending at a little beyond five-sixths of the length; *præbrachial vein* forming an obtuse and not sharply defined angle at its flexure, straight from thence to its tip, joining the cubital at about four-fifths of

the length of the latter; discal transverse vein straight, obliquely parted from the hind border by about thrice its own length from the border, and by more than twice its length from the flexure of the præbrachial.

Rare. (E.)

42. **intersecta**, n. Nigra, cano-tomentosa, capite albo, *palpis nigris*, *thorace nigro-trivittato*, alis cinereis basi et apud costam obscurioribus, alulis subcinereis, abdomine obconico tessellato hirsutissimo. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia widening in front; bristles of the front descending to half the length of the face; face vertical; facialia bristly to half the length; epistoma not prominent; *palpi black*. Antennæ not reaching the epistoma; second joint a little longer than deep; third linear, truncated, twice the length of the second; fourth indistinct; fifth very short; sixth bare, stout to half the length, nearly twice the length of the third; *thorax with three black stripes*. Costal vein prominent as far as the tip of the subcostal, where it is armed with a spine, ending at a little in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a right angle at the flexure, which emits a very short branch, much curved inward between this and the tip; discal transverse vein curved inward, parted by less than its length from the border, and by very much more than its length from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

43. **evocata**, n. Nigro-ænea, cinereo-subtomentosa, *palpis nigris*, capite albo, *thorace non vittato*, alis nigricantibus apice margineque postico albidis, alulis albis, abdomine subfusiformi. Long. 2; alar.  $3\frac{1}{2}$  lin.

Frontalia deep black; bristles of the front descending along the whole face; epistoma not prominent; *palpi black*. Antennæ nearly reaching the epistoma; third joint slender, linear, rounded at the tip, about thrice the length of the second; sixth much longer than the third. *Thorax not striped*. Costal vein ending in front at a short distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending before half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal at its tip; præbrachial vein forming a slightly acute angle at its flexure, near which it is curved inward, and is thence indistinctly curved outward to its tip, joining the cubital far from the tip of the latter; discal transverse vein with two very slight curves, parted by very much more than its own length from the border and from the flexure of the præbrachial.

Not common. (E.)

44. *usta*, Zett. D. S. iii. 1044. 36 (1844). Nigra, cano-tomentosa, capite pallide flavo, *palpis fulvis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine tessellato. Long. 4; alar. 8 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; epistoma hardly prominent; *palpi tawny*. Antennæ not reaching the epistoma; third joint much longer than the second, linear, slightly rounded at the tip; fifth distinct; sixth bare, about twice the length of the third; thorax with four black stripes. Costal vein ending at far in front of the tip of the wing; subcostal vein about one-third of the length; mediastinal vein a little less than half the length; radial vein ending beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a hardly obtuse angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with the basal curve inward, more distinct than the other which is outward, parted by more than its length from the border, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

45. *intermixta*, n. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, thorace nigro-quadrivittato, alis cinereis, alulis subcinereis, abdomine ovato tessellato segmentorum marginibus posticis vittaque dorsali nigris. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black, slightly widening in front; bristles of the front descending to half the length of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint more than twice longer than deep; third linear, rounded at the tip, much longer than the second; fourth indistinct; fifth short; *sixth bare*, more than twice the length of the third; thorax with four black stripes. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at before five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very slightly obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein with a very deep hinder curve, parted by much less than its length from the flexure of the præbrachial, and by more than half its length from the border. Abdomen oval, tessellated; hind borders of segments and dorsal stripe black.

Rare. In Mr. Desvignes's collection. (E.)

46. *nana*, Steph. MSS. Nigra, cano-tomentosa, capite albo, thorace nigro-bivittato, alis sublimpidis, alulis albis, abdomine subelliptico segmento primo vittaque dorsali nigris. Long.  $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$  lin.

Frontalia deep black, linear; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint a little longer than deep; third

decreasing in depth from the base to the tip, which is rounded, more than twice the length of the second; fourth almost obsolete; fifth very short; sixth very minutely pubescent, nearly twice the length of the third; *thorax with two very slender black stripes*. Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at its flexure, hardly curved inward from thence to the tip, which joins the tip of the cubital; discal transverse vein slightly curved inward, parted by more than its length from the flexure of the præbrachial, and by a little less from the border. Hind borders of the second and third segments of the abdomen with a black spot on each side.

Rare. In the late Mr. Stephens's collection. (E.)

47. **conica**, Fal. Musc. 19. 14 (1810); Meig. Nigra, cinereo-tomentosa, capite albo, *palpis nigris, antennarum articulo sexto nudo*, thoracis lateribus albidis, alis sublimpidis, alulis albis, abdomine obconico e maculis fuscis trivittato. Long. 2; alar. 4 lin.

Bristles of the front not descending below the eyes; face vertical; epistoma not prominent; *palpi black*, very slender. *Antennæ* not reaching the epistoma; second joint a little longer than deep; third linear, truncated, about twice the length of the second; fourth indistinct; fifth short; *sixth bare*, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at about five-sixths of the length; cubital vein ending at near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, curved inward near this, and thence straight to the tip; discal transverse vein with two very slight curves, parted by much less than its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

48. **evoluta**, n. Nigra, gracilis, cinereo-tomentosa, capite albo, *palpis nigris, antennarum articulo sexto fere ad trientem pubescente*, alis cinereis, alulis albis, abdomine longi-obconico tessellato. Long.  $2\frac{1}{4}$ ; alar. 4 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; epistoma not prominent; *palpi black*. *Antennæ* not reaching the epistoma; third joint linear, rather broad, rounded at the tip, less than twice the length of the second; *sixth pubescent for nearly one-third of the length*, nearly twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half the length; radial vein ending at a little

before four-fifths of the length; cubital vein slightly undulating, joining the costal very near its tip; præbrachial vein forming a hardly obtuse angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein almost straight, parted from the border by much more than its own length, and by a little less than its length from the flexure of the præbrachial.

Rare. (E.)

49. **particeps**, n. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine subelliptico subtessellato. Long. 3; alar. 6 lin.

Frontalia piceous; bristles of the front descending to half the length of the face; epistoma not prominent. *Palpi tawny*. Antennæ not reaching the epistoma; third joint slightly increasing in depth from the base to the tip, which is rounded, longer than the second; sixth stout for one-third of the length, very much longer than the third. Costal vein ending at some distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending before half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, near which it is slightly inclined inward, and is thence almost straight to its tip; discal transverse vein very oblique, with two slight curves, parted by more than its own length from the border, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

50. **exacta**, n. Nigra, cano-tomentosa, *antennarum articulo sexto usque ad dimidium incrassato*, thorace nigro-quinquevittato, alis cinereis, abdomine elliptico tessellato. Long.  $2\frac{3}{4}$ ; alar.  $5\frac{1}{2}$  lin.

Bristles of the front extending along the whole face; epistoma prominent. Antennæ not reaching the epistoma; third joint linear, obliquely truncated at the tip, very much longer than the second; sixth pubescent and *stout for nearly half the length*, more than twice the length of the third. Costal vein ending in front at some distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at a little before half the length; radial vein ending at a little before four-fifths of the length; cubital vein slightly undulating, joining the costal very near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two distinct curves, parted by very much more than its length from the border, and by much less than its length from the flexure of the præbrachial.

Rare. (E.) \*

\* In page 16 a species has been referred to here, and No. 51 is omitted that the grouping may correspond with the descriptions.

52. **agilis**? Meig. Zw. iv. 307. 118 (1824). Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, alulis albis, *abdomine ovato, segmentorum marginibus posticis basi vittaque dorsali nigris*. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia deep black, linear; bristles of the front descending nearly to half of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint nearly twice longer than deep; third linear, truncated, more than twice the length of the second; fourth very short; fifth long; sixth bare, longer than the third. Costal vein ending far in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at one-half of the length; radial vein ending at very little beyond three-fourths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle, slightly curved inward from thence to the tip; discal transverse vein slightly undulating, parted by nearly its length from the flexure of the præbrachial, and by much more from the border. *Abdomen oval; a slender dorsal stripe, first segment and hind borders of the following segments black.*

Rare. In the late Mr. Stephens's collection. (E.)

53. **rubrica**, Meig. Zw. iv. 255. 27 (1824). Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, alis subcinereis basi subfuscis, alulis albis, *abdomine ovato fulvo, vitta dorsali abbreviata nigra, tibiis fulvis*. Long.  $4\frac{3}{4}$ ; alar. 10 lin.

Frontalia nearly linear, piceous, ferruginous in front; bristles of the front descending to one-fourth of the face; face vertical; lateralia red; epistoma not prominent; palpi testaceous. Antennæ red, reaching the epistoma; second joint much longer than deep; third subfusiform, truncated, piceous above and at the tip, much more than twice the length of the second; fourth and fifth very short; sixth very minutely pubescent, nearly twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at very much beyond one-third of the length; mediastinal vein ending at very much beyond half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very slightly obtuse angle at the flexure, slightly curved inward from thence to the tip; discal transverse vein with two distinct curves, parted by rather more than half its length from the flexure of the præbrachial and from the border. *Abdomen obconical, tawny, with a black dorsal stripe, which is broad at the base, and does not extend to the tip; tibiæ tawny.*

Rare. In Mr. Desvignes's collection. (E.)

54. **evidens**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto viz quarta excepta incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, *abdomine ovato, segmentorum marginibus posticis nigris*. Long. 4; alar. 8 lin.



Frontalia broad, black; bristles of the front descending to one-third of the face; face slightly oblique; epistoma not prominent; lateralia red. Antennæ almost reaching the epistoma; third joint linear, obliquely rounded at the tip, about thrice the length of the second; *sixth stout for more than three-fourths of the length*, a little longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending before half the length; radial vein ending at about three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse angle at its flexure, very slightly inclined inward from thence to its tip; discal transverse vein with two slight curves, parted by much more than its length from the border, and by its length from the flexure of the præbrachial.

Rare. (E.)

55. **intacta**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad apicem incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdominis segmentorum marginibus anticis cano interrupte fasciatis, *tibiis nigris*. Long. 4; alar. 8 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; face oblique; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, slightly and obliquely rounded at the tip, almost thrice the length of the second; fourth and fifth joints distinct; *sixth stout, bare*. Costal vein ending far above the tip of the wing; subcostal vein about one-third of the length; mediastinal vein about half the length; radial vein ending much beyond three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very slightly obtuse angle at its flexure, which emits a very short branch, near this it is slightly inclined inward, and thence straight to its tip; discal transverse vein almost straight, parted by more than its length from the border, and by less than its length from the flexure of the præbrachial. Var.  $\beta$ . Præbrachial vein without a branch; discal transverse vein with two slight curves, parted from the border by much more than its own length.

Rare. (E.)

56. **pertinens**, n. Nigra, albido-tomentosa, capite albido, frontibus rufo-fulvis, antennis basi ferrugineis, *articulo sexto ad apicem incrassato*, thorace nigro-quadrivittato, alis limpidis, alulis albis, abdomine obconico sat longo maculis duabus testaceis, basi marginibusque posticis nigris, *tibiis fulvis*. Long.  $3\frac{1}{2}$ ; alar.  $6\frac{1}{2}$  lin.

Frontalia linear; bristles of the front descending to one-sixth of the face; face vertical; epistoma slightly prominent; palpi tawny. Antennæ nearly reaching the epistoma; second joint ferruginous, nearly twice longer than deep; third linear, slightly truncated, a little more than twice the length of the second; fourth short; fifth long; *sixth bare stout to the tip*, very much longer than the third. Costal vein

with a spine by the tip of the subcostal, ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, nearly straight from thence to its tip; discal transverse vein curved outward in the middle, parted by hardly less than its length from the border, and by more than its length from the flexure of the præbrachial. Abdomen with a testaceous spot on each side of the second segment; *tibice tawny*.

Rare. In the late Mr. Stephens's collection. (E.)

57. **morosa?** Meig. Zw. iv. 314. 129 (1824). Nigra, cano-tomentosa, capite albo, *antennarum articulo tertio secundo duplo longiore, sexto nudo*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine ovato, vitta dorsali et segmentorum marginibus posticis nigris. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia deep black, widening in front; bristles of the front descending to beyond one-third of the length of the face; face vertical; facialia bristly for one-sixth of the length; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint nearly twice longer than deep; *third* linear, truncated, *twice the length of the second*; fourth indistinct; fifth very short; *sixth bare*, stout for one-third of the length, very much longer than the third. Thorax with four very slender black stripes. Wings grey; costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at before one-third of the border; mediastinal vein ending at before half of the border; radial vein ending at five-sixths of the border; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein with the hinder curve much longer than the fore one, parted by its length from the flexure of the præbrachial, and by a little less from the border.

Rare. In Mr. Desvignes's collection. (E.)

58. **disjuncta**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo tertio secundo plus duplo longiore, sexto nudo*, thorace nigro-quadrivittato, alis subcinereis basi subfuscis, *vena transversa discali plus ejus longitudine ab margine remota*, alulis albis, abdomine elliptico nigro nitente, segmentorum marginibus anticis interrupte canis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia piceous, linear; bristles of the front descending to half the length of the face; face vertical; facialia bristly for one-sixth of the length; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint almost twice longer than deep; *third* linear, rounded at the tip, *more than twice the length of the second*; fourth short; fifth moderately long; *sixth bare*, stout for more than one-third

of the length, very much longer than the third. Costal vein with a spine at the tip of the subcostal, ending at far in front of the tip of the wing; subcostal vein ending at one-third of the border; mediastinal vein ending at a little before half of the border; radial vein ending at about four-fifths of the border; cubital vein ending near the tip of the costal; præbrachial vein forming a somewhat rounded and very slightly obtuse angle at its flexure, very slightly bent inward near this, and thence almost straight to the tip; *discal transverse vein* with two distinct curves, *parted by* nearly its length from the flexure of the præbrachial, and by a little more than its length from the border. Abdomen elliptical, black and shining, excepting an interrupted hoary band on the fore border of each segment.

Rare. In Mr. Desvignes's collection. (E.)

59. **divulsa**, n. Nigra, cinereo-tomentosa, *antennarum articulo tertio secundo plus duplo longiore, sexto nudo*, thorace nigro-quadrivittato, alis cinereis basi obscurioribus, *vena transversa discali non ejus longitudine ab margine remota*, alulis cinereis, abdomine obconico subtessellato. Long. 4; alar. 8 lin.

Frontalia wider in front; bristles of the front descending to full one-third of the face; face vertical; facialia bristly to one-sixth of the length; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint longer than deep; *third* linear, truncated, *more than twice the length of the second*; fourth very short; fifth short; *sixth bare*, stout to nearly half the length, twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the border; mediastinal vein ending at much beyond half of the border; radial vein ending at four-fifths of the border; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, hardly curved inward from thence to the tip; *discal transverse vein* with two slight curves, *parted by less than its length from the border*, and by little more than half its length from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

60. **pertracta**, n. Nigra, cinereo-tomentosa, *antennarum articulo sexto basi plumoso*, thorace fusco-trivittato, alis subcinereis, alulis albidis, abdomine ovato fasciis tribus fuscis. Long.  $2\frac{3}{4}$ ; alar. 6 lin.

Frontalia black; bristles of the front descending to one-fourth of the face; epistoma not prominent. Antennæ not reaching the epistoma; third joint straight above, slightly convex beneath, obliquely rounded at the tip, much longer than the second; *sixth plumose for half the length from the base*, about twice the length of the third joint. Thorax with three slender brown stripes. Costal vein ending in front at some little distance from the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at about

half the length; radial vein ending at before five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very slightly obtuse angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein with two slight curves, parted from the border by a little more than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

61. **defecta**, n. Nigra, cano-tomentosa, capite albo, frontalibus ferrugineis, *thorace nigro-quadrivittato*, alis subcinereis, alulis albis, abdomine ovato, segmentorum marginibus anticis nigris. Long. 4; alar. 7 lin.

Frontalia broad; bristles of the front descending to half the length of the face; face very oblique; epistoma not prominent. Antennæ seated on a projection, reaching the epistoma; third joint linear, almost truncate at the tip, a little more than twice the length of the second; sixth very minutely pubescent, stout along three-fourths of the length, a little longer than the third. *Thorax with four slender black stripes.* Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very slightly obtuse not sharply defined angle at its flexure, between which and its tip it is very slightly inclined inward; discal transverse vein with two curves, parted from the border by very much more than its length, and by less than its length from the flexure of the præbrachial.

Rare. (E.)

62. **dorsalis**, Meig. Zw. iv. 325. 148 (1824). Nigra, cano-tomentosa, capite albo, frontalibus rufo-piceis, *thorace nigro-trivittato*, alis cinereis antice subfuscis, alulis fusco-cinereis, abdomine obconico piceo cano-tomentoso, basi vittaque dorsali nigris, maculis quatuor piceis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia widening much in front; bristles of the front descending to one-fourth of the face; face vertical; epistoma not prominent. Antennæ not reaching the epistoma; second joint longer than deep; third linear, slightly rounded at the tip, full twice the length of the second; fourth almost obsolete; fifth very short; sixth very minutely pubescent, stout for one-fourth of the length, full twice the length of the third. *Thorax with three broad black stripes.* Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at hardly beyond half of the length; radial vein ending at a little before five-sixths of the length; cubital vein ending near the costal; præbrachial vein forming a very obtuse angle at the flexure, hardly curved inward from thence

to the tip; discal transverse vein with the hinder curve much deeper than the other, parted by more than half its length from the border, and a little more remote from the flexure of the præbrachial. Abdomen with a triangular piceous spot on each side of the second and of the third segments.

Rare. In the late Mr. Stephens's collection. (E.)

63. **terminalis**, Meig. Zw. iv. 323. 144 (1824). Nigra, cinereotomentosa, capite albo, thorace nigro-trivittato, alis cinereis, alulis subcinereis, abdomine obconico, basi *maculisque quatuor* vittaque dorsali *nigris*. Long. 2; alar. 4 lin.

Frontalia deep black; bristles of the front descending to one-fourth of the face; face vertical; facialia beset with bristles for one-fourth of the length; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint much longer than broad; third linear, truncated, a little more than twice the length of the second; fourth and fifth very short; sixth minutely pubescent, nearly twice the length of the third. Costal vein ending at some short distance in front of the tip of the wing; subcostal vein ending at before one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at about five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at its flexure, very slightly curved inward near its tip; discal transverse vein with two slight curves, parted by much less than its length from the flexure of the præbrachial and from the border. *Abdomen* obconical; *hind borders of the second and third segments with a black spot on each side.*

Rare. In the late Mr. Stephens's collection. (E.)

64. **cincta?** Meig. Zw. iv. 297. 102 (1824). Nigra, cinereotomentosa, capite albido, *thorace nigro-quadrivittato*, alis sublimpidis basi subcinereis, alulis albis, abdomine longi-obconico, segmentorum marginibus posticis *nigris*. Long.  $3\frac{1}{2}$ ; alar.  $6\frac{1}{2}$  lin.

Frontalia deep black, widening in front; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint nearly twice longer than deep; third linear, slightly truncated, twice the length of the second; fourth and fifth short; sixth bare, nearly twice the length of the third. *Thorax with four black stripes.* Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, nearly straight from thence to the tip; discal transverse vein with two slight curves, parted by nearly its own length from the border, and by a little less from the flexure of the præbrachial.

Rare. In the late Mr. Stephens's collection. (E.)

65. *intaminata*, n. Nigra, cinereo-tomentosa, capite albo, *thorace nigro-trivittato*, alis cinereis, alulis subcinereis, abdomine obconico subtessellato. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Frontalia deep black, widening in front; bristles of the front not descending below the base of the antennæ; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint much longer than deep; third linear, slender, truncated, more than twice the length of the second; fourth and fifth very short; sixth stout for one-third of the length, very much longer than the third. *Thorax cinereous on each side, and with two slender cinereous dorsal stripes.* Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at about four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, nearly straight from thence to the tip; discal transverse vein bent inward near the middle, parted by a little less than its length from the flexure of the præbrachial, and by much less from the border.

Rare. In the late Mr. Stephens's collection. (E.)

66. *interclusa*, n. Nigra, cinereo-tomentosa, capite albido-cinereo, *antennarum articulo tertio gracili*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine longi-obconico tessellato. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia deep black; bristles of the front descending to two-thirds of the face; face slightly oblique; epistoma not prominent; palpi tawny. Antennæ nearly reaching the epistoma; second joint more than twice longer than deep; *third linear, slender*, rounded at the tip, very much longer than the second; sixth nearly twice the length of the third. Costal vein ending on the fore border, far from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at a little before four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, beyond this it is slightly curved inward till near its tip, where it is slightly curved outward; discal transverse vein long, with two extremely slight curves, parted from the border by more than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

67. *enotata*, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo tertio sat lato*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine longi-obconico. Long. 4; alar. 8 lin.

Frontalia deep black; bristles of the front descending to three-fourths of the face; face slightly oblique; epistoma not prominent; palpi tawny. Antennæ nearly reaching the epistoma; *third joint* sublinear, *rather broad*, slightly oblique and almost truncated at the tip, very much longer than the second; sixth about twice the length of the third.

Costal vein ending on the fore border at some distance from the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at before four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a hardly obtuse angle at its flexure, between which it is indistinctly curved inward; discal transverse vein with two slight curves, parted from the hind border by a little more than its own length, and by half its length from the flexure of the præbrachial.

Rare. (E.)

68. **emissa**, n. Nigra, cano-tomentosa, capite albo, fronte pallide cervina, palpis fulvis, *antennarum articulo sexto nudo*, thorace nigro-quadrivittato, *scutello nigro*, alis cinereis, *vena præbrachiali angulum rectum fingente*, alulis albis, abdomine longi-obconico, segmentorum marginibus posticis vittaque dorsali nigris. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia deep black, widening in front; bristles of the front descending to full half the length of the face; face vertical; facialia bristly to one-fourth of the length; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint thrice longer than deep; third linear, truncated, much longer than the second; fourth very short; fifth moderately long; *sixth bare*, stout to full half the length, about twice the length of the third. Costal vein with a spine at the tip of the subcostal, ending at far in front of the tip of the wing; subcostal vein ending at one-third of the fore border; mediastinal vein ending at a little before half of the border; radial vein ending at three-fourths of the border; cubital vein ending very near the tip of the costal; *præbrachial vein forming a right angle at the flexure*, which emits a long branch, much curved inward near this, and thence straight to the tip; discal transverse vein with two indistinct curves, parted by much less than its length from the flexure of the præbrachial, and by much more than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

69. **ruricola** ? Meig. Zw. iv. 299. 104 (1824). Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto nudo*, thorace nigro-quadrivittato, *scutello nigro*, alis subcinereis, *vena præbrachiali angulum obtusum fingente*, alulis cinereis, abdomine obconico, basi apice et segmentorum marginibus posticis nigris nitentibus. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia linear; bristles of the front descending to half the length of the face; face vertical; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; second joint more than twice longer than deep, testaceous at the tip; third slightly deepening from the base to the tip, which is rounded, much longer than the second; fourth very short; fifth short; *sixth bare*, stout for half the length, very much longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal

vein ending at half of the length; radial vein ending at a little beyond three-fourths of the length; cubital vein ending near the tip of the costal; *præbrachial vein forming an obtuse angle at the flexure*, hardly curved inward from thence to the tip; discal transverse vein with two almost imperceptible curves, parted by very much more than its length from the border, and by more than half its length from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

70. **insuscepta**, n. Nigra, cinereo-tomentosa, capite cano, palpis fulvis, thorace nigro-quadrivittato, *scutello fulvo*, alis cinereis, alulis albis, abdomine elliptico, segmentorum marginibus posticis nigris. Long. 4; alar. 8 lin.

Frontalia linear; bristles of the front descending to half the length of the face; face vertical; epistoma testaceous, slightly prominent. Antennæ reaching the epistoma; second joint more than twice longer than deep; third linear, truncated, rather less than twice the length of the second; fourth very short; fifth rather long; sixth stout for half the length, nearly twice the length of the third. *Scutellum tawny*. Costal vein ending at far above the tip of the wing; subcostal vein ending at hardly beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at about four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, which emits a short branch, nearly straight from thence to the tip; discal transverse vein with two distinct curves, parted by its length from the border, and by much more than half its length from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

71. **refecta**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto pubescente*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico. Long. 4; alar. 8 lin.

Bristles of the front descending to half the length of the face; facialia beset with bristles along half the length; epistoma not prominent; palpi tawny towards the tips. Antennæ almost reaching the epistoma; third joint much longer than the second, slightly increasing in breadth from the base to the tip, which is almost truncated; fifth long; sixth less than twice the length of the third, *minutely pubescent*. Costal vein ending where the præbrachial meets it at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an almost right angle at its flexure, which emits a short branch, near this it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two slight curves, parted from the border by very much more than



its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

72. **fissa**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto fere ad apicem incrassato*, thorace nigro-vittato, alis subcinereis, alulis albis, abdomine obconico. Long. 4; alar. 8 lin.

Frontalia deep black; bristles of the front descending beyond one-third of the face; epistoma not prominent; lateralia red. Antennæ reaching the epistoma; third joint linear, rounded at the tip, nearly thrice the length of the second; *sixth stout till near the tip*, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at about half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two distinct curves, parted from the border by very much more than its length, and by much more than half its length from the flexure of the præbrachial.

Rare. (E.)

73. **rufo-scutellata**, Mcq. A. S. E. F. viii. 474. 33 (1850). Nigra, cano-tomentosa, capite flavo albo, thorace nigro-quadrivittato, *scutello ferrugineo*, alis subcinereis, alulis albis, abdomine obconico nigro, segmentorum marginibus anticis cano interrupte fasciatis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia black; bristles of the front extending to half the length of the face; epistoma testaceous, slightly prominent. Antennæ almost reaching the epistoma; third joint linear, subtruncate at the tip, full twice the length of the second; sixth stout for nearly half the length, almost twice the length of the third. *Scutellum dark ferruginous*. Costal vein ending very little beyond where the præbrachial meets it, and far above the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at hardly beyond half the length; radial vein ending at about three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right angle and emitting a long branch at its flexure, near which it is much curved inward, and is thence almost straight to its tip; discal transverse vein with two very slight curves, parted from the border by about its length, and by more than half its length from the flexure of the præbrachial.

Rare. (E.)

74. **effecta**, n. Nigra, cano-tomentosa, capite albo, *frontalibus nigris, antennarum articulo sexto ad dimidium incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albidis, abdomine obconico subtessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

*Frontalia deep black*; bristles of the front descending to one-third of the length of the face; epistoma not prominent. Antennæ not reaching the epistoma; third joint sublinear, almost truncated at the tip, much longer than the second; *sixth stout for full half the length*, more than twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at before five-sixths of the length; cubital vein joining the costal almost close to its tip; præbrachial vein forming a very obtuse angle at its flexure, straight from thence till near its tip, where it is very slightly inclined inward; discal transverse vein with two distinct curves, parted from the border by much more than its length, and by a little more than its length from the flexure of the præbrachial.

Rare. (E.)

75. **Pacta**, Meig. Zw. iv. 324. 146 (1824). Nigra, cano-tomentosa, capite albo, *frontalibus nigris, antennarum articulo sexto ad quartam incrassato*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine obconico tessellato. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

*Frontalia deep black*, linear; bristles of the front descending to one-third of the face; face vertical; facialia bristly to one-third of the length; epistoma not prominent; eyes bare. Antennæ nearly reaching the epistoma; second joint nearly twice longer than deep; third linear, slightly truncated, nearly twice the length of the second; fourth and fifth very short; *sixth bare, stout for one-fourth of the length*, nearly twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the border; mediastinal vein ending at a little beyond half of the border; radial vein ending at four-fifths of the border; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, nearly straight from thence to the tip; discal transverse vein with two distinct curves, parted by its length from the flexure of the præbrachial, and by a little more from the border.

Rare. In Mr. Desvignes's collection. (E.)

76. **punctata**, Meig. Zw. iv. 228. 3 (1824); Desv.; Mcq.; Curt. ! B. E. 529; Zett.—*æstracea*, var., Fal. Nigra, cano-tomentosa, capite albo, *frontalibus fulvis*, thorace nigro-quadrivittato, alis limpidis, alulis albis, abdomine obconico nigro-quadrifasciato, lateribus basi fulvis. Long. 4; alar. 7 lin.

*Frontalia tawny*, a little narrower in front; bristles of the front not descending to the face; epistoma not prominent; palpi testaceous. Antennæ much shorter than the face; second joint with a long bristle, testaceous at the tip, about twice longer than deep; third linear, slightly truncated, nearly twice the length of the second; fourth and fifth short; sixth bare, stout for more than half the length, much longer than the

third. Veins testaceous. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at hardly beyond half of the length; radial vein ending at a little before four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, much curved inward near this, almost straight from thence to the tip; discal transverse vein with two very indistinct curves, parted by much less than its length from the border, and by little more than half its length from the flexure of the præbrachial.

Not common. (E. S.)

77. **immissa**, n. Nigra, cano-tomentosa, capite albo, *facie parum obliqua, antennarum articulo sexto quarta apicali excepta incrassato*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine ovato, segmentorum marginibus posticis vittaque dorsali nigris. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black, linear; bristles of the front descending to half the length of the face; *face slightly oblique*; epistoma not prominent. Antennæ reaching the epistoma; second joint very much longer than deep; third linear, slightly truncated, more than twice the length of the second; fourth very short; fifth short; *sixth bare, stout to three-fourths of the length*, very much longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at much beyond one-third of the border; mediastinal vein ending at much beyond half of the border; radial vein ending at five-sixths of the border; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein with two very indistinct curves, parted by less than its length from the flexure of the præbrachial, and by much more than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

78. **involuta**, n. Nigra, cano-tomentosa, capite albo, *facie parum obliqua, antennarum articulo sexto ad bis trientem incrassato*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine longi-ovato subtessellato. Long. 4; alar. 7 lin.

Frontalia deep black; *face slightly oblique*; bristles of the front descending beyond one-third of the face; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rounded at the tip, about thrice the length of the second; fifth rather long; *sixth a little longer than the third, thick for two-thirds of the length*. Costal vein ending at some distance above from the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at much beyond three-fourths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at its flex-

ure, near which it is hardly curved inward, and is thence almost straight to its tip; discal transverse vein with two very indistinct curves, parted from the border by very much more than its length, and by little less than its length from the flexure of the præbrachial.

Rare. (E.)

79. **erogata**, n. Nigra, cano-tomentosa, capite albo, *facie valde obliqua*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine nigro, segmentorum marginibus anticis albo interrupte fasciatis. Long. 3; alar. 6 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; *face very oblique*; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, truncated but rounded beneath at the tip, full thrice the length of the second; sixth stout for more than half the length from the base, very much longer than the third. Costal vein ending on the fore border at some little distance from the tip of the wing; subcostal vein ending at before one-third of the length; mediastinal vein ending at before half the length; radial vein ending at a little beyond three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very obtuse angle at its flexure, from whence it is nearly straight to its tip; discal transverse vein with two very slight curves, parted from the border by more than its length, and by less than its length from the flexure of the præbrachial.

Rare. (E.)

80. **discrepans**, n. Nigra, cinereo-tomentosa, capite albido, *facialibus fere ad dimidium setosis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico, vitta dorsali et segmentorum marginibus posticis nigris. Long. 4; alar. 8 lin.

Frontalia deep black, broad, linear; bristles of the front descending beyond one-third of the face; face vertical; *facialia bristly for more than one-third of the length*; epistoma not prominent; lateralia red; eyes bare. Antennæ reaching the epistoma; second joint nearly twice longer than deep; third linear, slightly truncated, nearly thrice the length of the second; fourth very short; fifth rather long; sixth stout for three-fourths of the length, longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at a little before one-third of the border; mediastinal vein ending at a little before half of the border; radial vein ending at three-fourths of the border; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, which emits a very short branch, hardly curved inward from thence to the tip; discal transverse vein almost straight, parted by nearly its length from the flexure of the præbrachial, and by much more than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

81. **expleta**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad dimidium setosis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico tessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia deep black; bristles of the front descending to half the length of the face; face slightly oblique; *facialia beset with bristles along half the length*; epistoma not prominent; lateralia red. Antennæ reaching the epistoma; third joint linear, slightly rounded at the tip, hardly more than twice the length of the second; sixth stout till near the tip, very much longer than the third. Costal vein ending where the præbrachial meets it at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a slightly obtuse angle, near which it is very slightly curved inward, and is thence straight to its tip; discal transverse vein with two slight curves, parted from the border by more than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

82. **distenta**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad bis trientem setosis, palpis apice fulvis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico, basi apice marginibusque posticis nigris. Long.  $3\frac{1}{2}$ ; alar.  $6\frac{1}{2}$  lin.

Frontalia piceous, broad, linear; bristles of the front descending to one-third of the face; face vertical; *facialia bristly for two-thirds of the length*; epistoma not prominent; *palpi tawny towards the tips*. Antennæ not reaching the epistoma; second joint a little more than twice longer than deep; third sublinear, rounded at the tip, somewhat longer than the second; fourth very short; fifth short; sixth very minutely pubescent, stout for more than one-third of the length, very much longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at about half the length; radial vein ending at four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, which emits a short branch, very slightly curved inward near this, and thence straight to the tip; discal transverse vein with two very indistinct curves, parted by much less than its length from the flexure of the præbrachial, and by very much more than its length from the border.

Rare. In the late Mr. Stephens's collection. (E.)

83. **comitata**, n. Nigra, cinereo-tomentosa, capite albo, *facialibus ad bis trientem setosis, palpis nigris*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine ovato, basi vitta dorsali et segmentorum marginibus posticis nigris. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia deep black, linear; bristles of the front descending to one-

third of the length of the face; face vertical; *facialia* bristly for two-thirds of the length; epistoma not prominent; *palpi* black. Antennæ reaching the epistoma; second joint much longer than deep; third linear, slightly truncated, about thrice the length of the second; fourth very short; fifth rather long; sixth bare, stout for more than one-third of the length, longer than the third. Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little before one-third of the border; mediastinal vein ending at a little before half of the border; radial vein ending at a little beyond four-fifths of the border; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the tip, very slightly curved inward from thence to the tip; discal transverse vein nearly straight, parted by much more than its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

84. **longirostris**, Meig. Zw. iv. 315. 132 (1824); Mcq. Nigra, cano-tomentosa, *proboscide elongata*, palpis fulvis, antennis basi ferrugineis, thorace nigro-quadrivittato, scutello apice fulvo, alis subhyalinis, alulis albis, abdomine fulvo tessellato, vitta apiceque nigris. Long. 4; alar. 8 lin.

Frontalia deep black, linear; bristles of the front descending to one-third of the face; *facialia* without bristles; epistoma slightly prominent; *proboscis* much longer than the head. Antennæ reaching the epistoma; second joint twice longer than deep; third sublinear, slightly truncated at the tip, very much longer than the second; fourth and fifth very short; sixth minutely pubescent, very much longer than the third. Costa ciliated to the tip of the subcostal vein, where it is armed with a spine. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal, præbrachial, and pobrachial veins armed with spines towards the base, the first ending at before half the length; radial vein ending at about five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse and not sharply-defined angle at its flexure, from whence it is straight, with the exception of a slight curve near its tip; discal transverse vein with a slight inward curve, parted from the border by more than its length, and by less from the flexure.

Very rare. In Mr. Desvignes's collection. (E.)

85. **fulgens**, (Hoffm.) Meig. Zw. iv. 259. 34 (1824); Zett.—*Heraclei*, Mcq. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, *scutelli apice ferrugineo*, alis subcinereis basi subluridis, alulis albis, abdomine subtessellato, *lateribus basi tibiisque ferrugineis*. Long. 5; alar. 10 lin.

Frontalia piceous, striated, concave; bristles of the front descending to one-third of the face; epistoma very prominent. Antennæ reaching

the epistoma; second joint more than twice longer than deep; third linear, rounded at the tip, about twice the length and breadth of the second, with a distinct aperture; sixth very minutely pubescent, more than twice the length of the third. *Scutellum ferruginous towards the hind border*. Costal vein terminating in front of the tip of the wing; subcostal vein about one-third of the length; mediastinal vein a little more than half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right angle at its flexure, which emits a long branch, near this it is deeply curved inward, and is thence straight to its tip; discal transverse vein with the fore curve more distinct than the hinder, parted from the hind border by less, and from the flexure of the præbrachial by much less than its own length. *Abdomen ferruginous on each side towards the base*.

Rare. (E.)

86. **enodata**, n. Nigra, cinereo-tomentosa, capite albo, frontibus ferrugineis, thorace nigro-quadrivittato, *scutello nigro*, alis subcinereis, alulis albis, *abdomine* subovato tessellato, *lateribus basi tibiisque ferrugineis*. Long. 5; alar. 10 lin.

Frontalia widening in front; bristles of the front descending to one-third of the face; epistoma prominent. Antennæ almost reaching the epistoma; second joint more than twice longer than deep; third slightly widening towards the tip, which is rounded, very much broader than the second, and full twice its length; sixth nearly twice the length of the third, gradually tapering from the base to the tip. *Scutellum black*. Costal vein terminating at a little in front of the tip of the wing; subcostal vein ending beyond one-third of the length; mediastinal vein ending beyond half the length; radial vein ending at five-sixths of the length; cubital vein ending near the præbrachial; præbrachial vein with a long branch at its flexure, which forms a right angle, near this it is slightly curved inward, and thence straight to its tip; discal transverse vein with very slight curves, parted from the border by much more than half its length, and by much less than its length from the flexure of the præbrachial. *Abdomen ferruginous on each side at the base. Tibiæ ferruginous*.

Not common. (E.)

87. **dispuncta**, n. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, *scutello rufo*, alis subcinereis, alulis albis, *abdomine* obconico lateribus rufis. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

Bristles of the front descending to one-fourth of the face; epistoma testaceous, prominent; lateralia red; palpi long, slender, tawny. Antennæ not reaching the epistoma; third joint increasing in depth towards the tip, which is rounded, much longer than the second; sixth about twice the length of the third. *Scutellum red*. Costal vein ending at very little above the tip of the wing; subcostal vein ending at

much beyond one-third of the length; mediastinal vein ending at very much beyond half of the length; radial vein ending at beyond seven-eighths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a slightly acute but much rounded angle at its flexure, between which and its tip it is much curved inward; discal transverse vein with two hardly perceptible curves, parted from the border by hardly half its length, and by little more than half its length from the flexure of the præbrachial.

Not common. (E.)

88. **fimbriata?** Meig. Zw. iv. 337. 168 (1824). Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, *scutello nigro*, alis subcinereis, alulis albis, abdomine obconico tessellato. Long. 3; alar. 6 lin.

Frontalia deep black; bristles of the front descending to one-fourth of the face; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rounded at the tip, about thrice the length of the second; sixth very minutely pubescent, very much longer than the third. *Scutellum black*. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at a little before half the length; radial vein ending at about four-fifths of the length; cubital vein slightly undulating, joining the costal very near its tip; præbrachial vein forming an obtuse angle at its flexure, between which and its tip it is very indistinctly curved inward; discal transverse vein with two distinct curves, parted from the hind border by a little more than its own length.

Not common. (E.)

89. **flexa**, n. Nigra, cano-tomentosa, capite albo, *palpis apice fulvis*, thorace nigro-quadrivittato, alis cinereis, alulis albis, abdomine ovato, vitta dorsali et segmentorum marginibus posticis nigris. Long. 3; alar. 6 lin.

Frontalia deep black, linear; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent; *palpi tawny towards the tips*. Antennæ reaching the epistoma; second joint full twice longer than deep; third linear, rounded at the tip, reddish at the base, nearly twice the length of the second; fourth indistinct; fifth short; sixth bare, stout for one-third of the length, twice the length of the third. Costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at much beyond five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a slightly obtuse and not sharply-defined angle at its flexure, very slightly curved inward from thence to its tip; discal transverse vein much curved inward behind the middle, parted by its length from the flexure of the præbrachial, and by much less than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)



90. **affinis** ? Fal. Msc. 28. 57 (1810); Meig.; Zett. Nigra, cano-tomentosa, capite albo, palpis fulvis, *thorace nigro-quinquevittato*, scutello apice fulvo, alis sublimpidis, alulis albis, abdomine brevi-elliptico, vitta dorsali et segmentorum marginibus posticis nigris, tibiis fulvis. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black, hardly widening in front; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint much longer than deep; third deepening beneath from the base towards the tip, which is very obliquely truncated, nearly twice the length of the second; fourth very short; fifth rather short; sixth very minutely pubescent, stout to half the length, nearly half the length of the third. *Thorax with five black stripes, the middle one very broad.* Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, almost straight from thence to the tip; discal transverse vein bent inward behind, parted by little more than half its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

91. **conjuncta**, n. Nigra, cinereo-tomentosa, capite albo, *palpis fulvis*, thorace vix vittato, alis cinereis, alulis albidis, abdomine obconico lateribus basi subferrugineis. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Bristles of the front descending to one-sixth of the face; face slightly oblique; *facialia bristly for one-sixth of the length*; epistoma not prominent; *palpi tawny*. Antennæ not reaching the epistoma; second joint nearly twice longer than deep, red at the tip; third subfusiform, red at the base, rounded at the tip, nearly twice longer than the second; fourth very short; fifth rather short; sixth bare, stout for one-third of the length, full twice longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, slightly curved inward from thence to the tip; discal transverse vein with two very slight curves, parted by half its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

92. **Heraclei**, Meig. Zw. iv. 339. 172 (1824); Mcq.; Zett. Nigra, cano-tomentosa, capite albo, *frontalibus ferrugineis*, thorace nigro-quadrivittato, scutelli apice ferrugineo, alis subcinereis, alulis albis, abdomine obconico lateribus rufo-fulvis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Bristles of the front descending to half the length of the face; *fron-*

*talía ferruginous*; facialia bristly for one-fourth of the length; epistoma not prominent; lateralia red. Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, full thrice the length of the second; arista stout for half the length from the base, near twice the length of the third. Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at about half the length; radial vein ending at before five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, between which and its tip it is hardly curved inward; discal transverse vein with two extremely slight curves, emitting a short branch inward near the hind end, parted from the hind border by a little more than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

93. **exagens**, n. Nigra, cinereo-tomentosa, capite albo, *frontalibus nigris, palpis fulvis*, thorace nigro-quadrivittato, alis cinereis basi fuscis, alulis subcinereis, abdomine obconico tessellato lateribus basi ferrugineis. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

*Frontalia black*, widening in front; bristles of the front descending to one-fourth of the face; face slightly oblique; facialia bristly for one-fourth of the length; epistoma not prominent; *palpi tawny*. Antennæ reaching the epistoma; second joint twice longer than deep; third fusiform, more convex beneath than above, very much longer than the second; fourth and fifth indistinct; sixth bare, stout for one-third of the length, full twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the border; mediastinal vein ending at a little beyond half of the border; radial vein ending at beyond five-sixths of the border; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, between which and the tip it is very slightly bent inward; discal transverse vein with two slight curves, parted by hardly less than its length from the flexure of the præbrachial, and by full half its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

94. **dispecta**, n. Nigra, cano-tomentosa, capite albo, *frontalibus palpisque nigris*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico tessellato, apice rufo. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

*Frontalia deep black*, almost linear; bristles of the front descending to one-sixth of the face; face vertical; facialia bristly for one-fourth of the length; epistoma not prominent; *palpi black*. Antennæ nearly reaching the epistoma; second joint much longer than deep; third subfusiform, truncated, nearly twice the length of the second; fourth and fifth very short; sixth bare, stout for one-third of the length, more than twice the length of the third. Costal vein ending at some dis-

tance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at before five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a slightly obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein with two very slight curves, parted by half its length from the border, and by a little more from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

95. **distertina**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad plus trientem setosis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico subtessellato. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia piceous-black, broad, slightly narrower in front; bristles of the front descending to half the length of the face; *facialia bristly for more than one-third of the length*; epistoma not prominent. Antennæ nearly reaching the epistoma; third joint linear, truncated at the tip, more than twice the length of the second; arista stout for two-thirds of the length from the base, very much longer than the third joint, its second joint long. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse and not sharply defined angle at its flexure, between which and its tip it is hardly inclined inward; discal transverse vein with two distinct curves, parted from the border by more than its length, and by its length from the flexure of the præbrachial.

Rare. (E.)

96. **demota**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad bis trientem setosis*, palpis fulvis, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico tessellato. Long. 4; alar. 8 lin.

Clothed behind and beneath with whitish hairs. Frontalia deep black; bristles of the front descending to half the length of the face; face slightly oblique; *facialia bristly for two-thirds of the length*; epistoma not prominent. Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, more than twice the length of the second; sixth very slender, stout for nearly one-third of the length, a little more than twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half of the length; radial vein ending at a little beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming an almost right angle at its flexure, near which it forms a very obtuse in-

ward angle, which emits a short branch inward, and is thence straight to its tip; discal transverse vein with two distinct curves, parted from the border by more than its length, and by a little less than its length from the flexure of the præbrachial.

Rare. (E.)

97. **domator**, n. Nigra, cano-tomentosa, capite albo, *frontalibus piceis*, thorace nigro-quadrivittato, alis cinereis basi obscurioribus, alulis albis, abdomine elliptico tessellato, apice rufo. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

*Frontalia piceous*, linear; bristles of the front descending to one-third of the face; face vertical, tawny; *facialia* bristly to three-fourths of the length; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; second joint much longer than deep; third deep, slightly convex above, beneath, and at the tip, nearly twice the length of the second; fourth indistinct; fifth very short; sixth bare, stout to one-fourth of the length, twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half the length; radial vein ending at hardly beyond four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, nearly straight from thence to the tip; discal transverse vein with two indistinct curves, parted by much less than its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

98. **internexa**, n. Nigra, cano-subtomentosa, capite albo, *frontalibus atris*, thorace nigro-quadrivittato, alis et alulis subcinereis, abdomine obconico, segmentorum marginibus anticis tomentosis. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

*Frontalia deep black*, widening in front; bristles of the front descending to one-third of the face; face vertical; *facialia* bristly for three-fourths of the length; epistoma not prominent. Antennæ reaching the epistoma; second joint longer than deep; third linear, slightly truncated, about thrice the length of the second; fourth very short; fifth short; sixth bare, stout for full one-third of the length, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the border; mediastinal vein ending at much beyond half of the fore border; radial vein ending at five-sixths of the fore border; cubital vein ending near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, slightly bent inward near this, and thence straight to the tip; discal transverse vein with two very slight curves, parted by hardly less than its length from the border, and by much less from the flexure of the præbrachial. Alulæ greyish. Abdomen obconical, with tomentum towards the fore borders of the segments.

Rare. In Mr. Desvignes's collection.

99. **reformata**, n. Nigra, capite cano-tomentoso, *frontalibus ferrugineis*, thorace cinereo, alis subcinereis, alulis albis, abdomine nigro-æneo subfusiformi. Long. 3; alar.  $5\frac{1}{2}$  lin.

*Frontalia* very dark ferruginous; bristles of the front descending to nearly half the length of the face; epistoma pale testaceous, hardly prominent; lateralia red. Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, almost twice the length of the second; fifth long; sixth very minutely pubescent, *stout along three-fourths of the length*, much longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at about half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining the costal at its tip; præbrachial vein forming an obtuse and much rounded angle at its flexure, between which and its tip it is slightly curved inward; discal transverse vein slightly curved outward near its base, parted from the border by more than its length, and by a little more than its length from the flexure of the præbrachial.

Rare. (E.)

100. **pacifica**, Meig. Zw. iv. 342. 178 (1824). Nigra, cinereo-tomentosa, capite albo, palpis fulvis, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico, *pedibus fulvis*, femoribus basi tarsisque nigris. Long. 3; alar. 6 lin.

*Frontalia* red, broad, linear; bristles of the front descending to one-sixth of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; first and second joints red; third linear, truncated, full four times the length of the second; fourth indistinct; fifth very short; sixth minutely pubescent, *stout for much more than half the length*. Subcostal vein ending a little beyond one-third of the length; mediastinal vein ending beyond half of the length; discal transverse vein slightly bent outward. *Legs tawny*.

Rare. Described from an injured specimen in the late Mr. Stephens's collection. (E.)

101. **nexa**, n. Nigra, cano-tomentosa, palpis fulvis, *antennis nigris*, thorace nigro-trivittato, alis subcinereis, alulis albidis, abdominis vitta dorsali marginibusque posticis nigris. Long. 3; alar. 7 lin.

*Frontalia* deep black; front slightly prominent, its bristles not descending to the face; epistoma not prominent; lateralia ferruginous. *Antennæ* black, short, not reaching the epistoma; third joint longer than the second, linear, rounded at the tip; fourth and fifth distinct; sixth very minutely pubescent, stout at the base, much more than twice the length of the third. Costal vein terminating a little above the tip of the wing; subcostal vein about one-third of the length; mediastinal vein less than half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal very near

its tip; præbrachial vein forming a very obtuse angle at its flexure, straight from thence to its tip, which joins the cubital vein very near the tip of the latter; discal transverse vein with two very slight curves, parted from the border by a little less than its length, and by more than half its length from the flexure of the præbrachial.

Rare. (E.)

102. **inanis**, Fal. Msc. 21. 43 (1810); Meig. Nigra, cinereo-tomentosa, capite albo, *antennis basi rufis*, thorace nigro-quadrivittato, alis sublimpidis, alulis albidis, *abdomine subfusiformi fulvo*, vitta nigricante, pedibus fulvis, tarsis nigris. Long. 3; alar. 6 lin.

Frontalia narrow, piceous, widening a little in front; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent; proboscis rather long; palpi long, tawny. *Antennæ* reaching the epistoma; *first and second joints pale red*; second much longer than deep; third a little deeper towards the tip, which is rounded, rather less than twice the length of the second; fourth almost obsolete; fifth short; sixth minutely pubescent, stout at the base, more than twice the length of the third. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, straight from thence to near the tip, where it is slightly bent inward; discal transverse vein nearly straight, parted by much more than its length from the flexure of the præbrachial, and by much less from the border. *Abdomen* subfusiform, *tawny*, with a blackish stripe, which is widened towards the tip.

Rare. In the late Mr. Stephens's collection. (E.)

103. **computa**. Nigra, cano-tomentosa, capite albo, palpis flavis, *antennis luteis*, alis subcinereis, alulis albis, *abdomine subfusiformi subtessellato*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Frontalia deep black; bristles of the front not descending along the face; epistoma not prominent. *Antennæ luteous*, not reaching the epistoma; third joint straight above, convex beneath, about twice the length of the second; sixth black, stout at the base, more than twice the length of the third. Costal vein ending at the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at before half of the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal at its tip; præbrachial vein curved at its flexure, joining the cubital at a short distance from the tip of the latter; discal transverse vein nearly straight, parted from the border by less than its length, and by much more than its length from the flexure of the præbrachial.

Rare. (E.)

104. **torta**, n. Nigra, cano-tomentosa, *palpis ferrugineo-fasciatis*,

thorace nigro-quadrivittato, alis cinereis basi et ad costam luridis, alulis albis, abdomine ovato nitente. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia distinctly striated; bristles of the front descending to one-third of the face; facialia without bristles; epistoma not prominent; *palpi* long and slender, *with a ferruginous band near the tips*. Antennæ not reaching the epistoma; second joint ferruginous; third linear, rounded at the tip, much longer than the second; sixth very minutely pubescent, stout at the base, much more than twice the length of the third. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at very little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at beyond five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very obtuse and not sharply defined angle at its flexure, beyond which it is almost straight, but is very slightly curved inward towards its tip; discal transverse vein with two extremely slight curves, parted from the border and from the flexure of the præbrachial by much less than its length.

Rare. (E.)

105. **excessa**, n. Nigra, nitens, capite albo, *palpis nigris*, alis cinereis basi subluridis, *vena præbrachiali angulum obtusum fingente*, alulis albidis, abdomine elliptico. Long. 2; alar. 4 lin.

Frontalia deep black; bristles of the front descending to half the length of the face; epistoma not prominent; *palpi* black. Antennæ reaching the epistoma; third joint linear, slender, conical at the tip, about twice the length of the second; sixth minutely pubescent, stout at the base, full twice the length of the third. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at beyond five-sixths of the length; cubital vein ending at the tip of the costal; *præbrachial vein forming a very obtuse* and not sharply defined *angle* at its flexure, between which and its tip it is hardly curved inward; discal transverse vein slightly curved inward behind, parted from the border by less than its length, and by its length from the flexure of the præbrachial.

Rare. (E.)

106. **mera**, n. Nigra, gracilis, capite cano, *palpis nigris*, alis cinereis antice nigricantibus, *vena præbrachiali curvata*, alulis albidis, abdomine sublineari. Long.  $1\frac{3}{4}$ ; alar.  $3\frac{1}{2}$  lin.

Frontalia slightly concave; bristles of the front not descending along the face; facialia without bristles; epistoma not prominent; *palpi* black. Antennæ hardly reaching the epistoma; third joint almost truncated at the tip, about twice the length of the second; sixth stout at the base, plumose except towards the tip, full twice the length of the third. Costal vein ending at the tip of the wing; subcostal vein ending at much before one-third of the length; mediastinal vein ending

at much before half the length; radial vein ending at a little beyond five-sixths of the length; *præbrachial vein forming a slight curve* at its flexure, from whence it is straight to its tip; discal transverse vein almost straight, parted from the border by very much more than its length, and by rather less than twice its length from the flexure of the præbrachial.

Rare. (E.)

107. **longipes** ? Meig. Zw. iv. 341. 176 (1824). Nigra, cano-tomentosa, capite albo, antennis basi fulvis, thorace nigro-quadrivittato, alis sublimpidis, alulis albidis, abdomine longo subfusiformi cinereo-tomentoso, *pedibus fulvis sat longis*, tarsis nigris. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia deep black, hardly widening in front; bristles of the front descending to one-fourth of the face; face vertical; *facialia bristly for one-eighth of the length*; epistoma slightly prominent; palpi long, tawny, subclavate. Antennæ nearly reaching the epistoma; second joint nearly twice longer than deep; third linear, rounded at the tip, nearly twice longer than the second; fourth very short; fifth short; sixth minutely pubescent, stout at the base, nearly twice the length of the third. Costal vein ending at hardly in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at half of the length; radial vein ending at four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse angle at the flexure, hardly curved inward near the tip; discal transverse vein nearly straight, parted by a little less than its length from the flexure of the præbrachial, and by much less from the border. *Legs tawny, rather long*; tarsi black.

Rare. In the late Mr. Stephens's collection. (E.)

108. **exscensa**, n. Nigra, capite ferrugineo albo-tomentoso, palpis fulvis, antennis fuscis basi fulvis, *articulo sexto ad apicem incrassato*, thorace cano-tomentoso, alis subcinereis basi subluridis, alulis albis, abdomine elliptico, segmentorum marginibus anticis albo interrupte fasciatis. Long. 2; alar. 4 lin.

Bristles of the front descending to one-sixth of the face; epistoma not prominent. Antennæ tawny, not reaching the epistoma; third joint broad, brown, tawny beneath towards the base, straight above, convex beneath, obliquely rounded at the tip, about thrice the length of the second; fifth long; *sixth stout to the tip*, very minutely pubescent, not twice the length of the third. Costal vein ending at the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining the costal close to its tip; præbrachial vein forming a curve at its flexure, nearly straight from thence to its tip; discal trans-



verse vein straight, parted from the border by more than its length, and by near twice its length from the flexure of the præbrachial.

Rare. (E.)

109. **bicolor**, Meig. Zw. iv. 354. 199 (1824). Nigra, cano-tomentosa, capite testaceo, *antennarum articulo sexto ad apicem incrassato*, scutelli apice humerisque testaceis, alis subcinereis, alulis albis, abdomine lato obconico *rufo-fulvo*, pedibus fulvis, tarsis piceis. Long.  $2\frac{1}{4}$ ; alar. 5 lin.

Head with white tomentum; frontalia red, broad, slightly widening in front; bristles of the front descending to one-sixth of the face; face vertical; epistoma not prominent; palpi testaceous. Antennæ tawny, nearly reaching the epistoma; second joint not longer than deep; third linear, rounded at the tip, thrice longer than the second; fourth very short; fifth long; *sixth stout along the whole length*, a little longer than the third. Costal vein ending at the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at five-sixths of the length; cubital vein with spines towards the base, ending very near the tip of the costal; præbrachial vein forming a curve at the flexure, hardly curved inward from thence to the tip; discal transverse vein almost straight, parted by nearly twice its length from the flexure of the præbrachial, and by much more than its length from the border. *Abdomen* broad, obconical, *reddish-tawny*.

Rare. In the late Mr. Stephens's collection. (E.)

110. **perpingens**, n. Nigra, thorace cinereo-tomentoso, capite albido, *antennis articuli sexti plus dimidio incrassato*, alis subcinereis, alulis albidis, abdomine ovato marginibus anticis interrupte albidis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Bristles of the front descending to one-third of the face; frontalia piceous-black; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rather broad, rounded at the tip, nearly twice the length of the second; *sixth stout for more than half the length*, much longer than the third. Costal vein ending at the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very obtuse angle at its flexure, hardly curved inward towards its tip; discal transverse vein almost straight, parted from the border by much more than its length, and by nearly twice its length from the flexure of the præbrachial.

Rare. (E.)

111. **separata**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto fere ad dimidium incrassato*, thorace nigro-trivittato, alis subcinereis basi testaceis, alulis albis, abdomine brevi-elliptico, vitta

dorsali et segmentorum marginibus posticis nigris. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia striated, slightly depressed; bristles of the front descending to one-fourth of the length of the face; facialia beset with bristles along one-fourth of the length; epistoma pale testaceous, slightly prominent; palpi subclavate. Antennæ not reaching the epistoma; third joint sublinear, a little rising above at the tip, which is slightly rounded, full twice the length of the second; sixth very minutely pubescent, *stout for near half the length*, more than twice the length of the third. Costal vein ending a little above the tip of the wing; subcostal vein ending at full one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right angle at its flexure, beyond this it is curved inward, and is thence straight to its tip; discal transverse vein with two very slight curves, parted from the border by less than its length, and by hardly more than one-fourth of its length from the flexure of the præbrachial.

Rare. In Mr. Saunders's collection. (E.)

112. **melania?** Meig. Zw. iv. 348. 189 (1824). Nigra, capite albo, *antennarum articulo sexto ad trientem incrassato*, alis obscure cinereis, alulis albis, abdomine ovato hirsutissimo. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia widening in front; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent; palpi clavate. Antennæ nearly reaching the epistoma; second joint much longer than deep; third linear, rounded at the tip, nearly twice the length of the second; fourth indistinct; fifth short; *sixth* minutely pubescent, *stout for one-third of the length*, twice the length of the third. Costal vein with a spine at the tip of the subcostal, ending close to the tip; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a very obtuse and somewhat rounded angle at the flexure, nearly straight from thence to the tip; discal transverse vein with two very slight curves, parted by less than its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

113. **senta**, n. Nigra, cano-tomentosa, capite albo, frontalibus ferrugineis, thorace nigro-trivittato, alis cinereis, *vena præbrachiali angulum rectum fingente*, alulis albis, abdomine longi-obconico tessellato. Long.  $4\frac{1}{2}$ ; alar. 8 lin.

Frontalia dark ferruginous; bristles of the front descending along one-third of the face; face oblique; lateralia red; facialia ferruginous; epistoma testaceous, slightly prominent. Antennæ nearly reaching the

epistoma; third joint linear, slightly rounded at the tip, much more than twice the length of the second; sixth minutely pubescent, stout for one-third of the length, much more than twice the length of the third. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at hardly beyond one-third of the length; mediastinal vein ending at half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; *præbrachial vein forming a right angle* at its flexure, which emits a very short clouded branch, near this it is much curved inward, and is thence straight to its tip; discal transverse vein with two rather deep curves, parted from the border by less than its length, and by much less than half its length from the flexure of the præbrachial.

Rare. (E.)

114. **commissa**, n. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, alis subcinereis, venis fusco-subnebulosis, *vena præbrachiali angulum subobtusum fingente*, alulis albidis, abdomine elliptico tessellato æneo-nigro. Long. 2-2½; alar. 4-5 lin.

Frontalia deep black, widening in front, ferruginous above the base of the antennæ; bristles of the front descending to beyond half of the length of the face; face vertical; epistoma not prominent; eyes bare; palpi tawny towards the tips. Antennæ nearly reaching the epistoma; second joint a little longer than deep, tawny at the tip; third linear, slightly truncated, about thrice the length of the second; fourth very short; fifth moderately long; sixth bare, stout for half the length, very much longer than the third. Costal vein convex as far as the subcostal, ending at very little above the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at hardly before half of the length; radial vein ending at five-sixths of the length; cubital vein bristly at the base, ending at near the tip of the costal; *præbrachial vein forming a slightly obtuse angle* at the flexure, slightly curved inward from thence to the tip; discal transverse vein with two very indistinct curves, parted by its length from the flexure of the præbrachial, and by rather less from the border.

Rare. In Mr. Desvignes's collection. (E.)

115. **interna**, n. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, alis cinereis, *vena præbrachiali angulum obtusum fingente*, alulis albis, abdomine ovato, vitta dorsali et segmentorum marginibus posticis nigris. Long. 3½; alar. 7 lin.

Frontalia deep black, widening in front; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent; palpi with ferruginous tips. Antennæ reaching the epistoma; second joint a little longer than deep; third linear, rounded at the tip, about thrice the length of the second; fourth indistinct; fifth very short; sixth bare, stout for one-third of the length, very much longer than the third. Costal vein ending at a little in front of the tip of the

wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at a little before five-sixths of the length; cubital vein ending very near the tip of the costal; *præbrachial vein forming an obtuse angle* at the flexure, hardly curved inward from thence to the tip; discal transverse vein with two indistinct curves, parted by a little less than its length from the flexure of the præbrachial, and by much less from the border:

Rare. In Mr. Desvignes's collection. (E.)

116. **infixa.** Nigra, cano-tomentosa, capite albo, *thorace nigro-quadrivittato*, alis subcinereis, *vena præbrachiali angulum valde obtusum fingente*, alulis albidis, abdominis vitta dorsali brevi gracili nigra. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia with grey tomentum; bristles of the front descending to one-fourth of the face; epistoma not prominent. Antennæ not reaching the epistoma; third joint very slightly decreasing in breadth towards the tip, which is obliquely rounded, much more than twice the length of the second; sixth very minutely pubescent, stout at the base, nearly twice the length of the third. *Thorax with four black stripes.* Costal vein ending at very little above the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at about half the length; radial vein ending at very little before four-fifths of the length; cubital vein joining the tip of the præbrachial; *præbrachial vein forming a very obtuse* and not sharply defined *angle* at its flexure, between which and its tip it is almost straight; discal transverse vein with two rather deep curves, parted from the border by very little less than its length.

Rare. (E.)

117. **reventa.** Atra, nitens, angusta, capite albido, *thorace non vittato*, alis cinereis, *vena præbrachiali angulum perobtusum fingente*, alulis albidis, abdomine elliptico. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

*Male.* Frontalia widening much in front; bristles of the front descending along half the face; facialia beset with bristles for one-third of the length; epistoma very slightly prominent. Antennæ not reaching the epistoma; third joint linear, rounded at the tip, a little more than twice the length of the second; sixth pubescent, stout for full one-third of the length from the base, more than twice the length of the third. *Thorax not striped.* Costal vein ending where the præbrachial meets it at very little above the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending before half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal very near its tip; *præbrachial vein forming a very obtuse* and not sharply defined *angle* at its flexure, between which and its tip it is hardly curved inward; discal transverse vein with the hind curve deeper than the other, parted from the border

by very much less than its length, and by rather less than its length from the flexure of the præbrachial.

Rare. (E.)

118. **motor**, n. Nigra, nitens, capite albo, *antennarum articulo sexto ad apicem incrassato*, alis sublimpidis, alulis albidis, abdomine elongato-ovato. Long. 2; alar. 4 lin.

Frontalia deep black; bristles of the front descending along half the face; epistoma not prominent. Antennæ almost reaching the epistoma; third joint sublinear, very deep, rounded at the tip, about thrice the length of the second; fifth long; *sixth stout to the tip*, longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at hardly beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein joining the costal close to its tip; præbrachial vein forming an obtuse angle at its flexure, hardly curved inward from thence to its tip; discal transverse vein with two hardly perceptible curves, parted from the border by a little more than its length, and by more than its length from the flexure of the præbrachial.

Rare. (E.)

119. **puparum**, F. E. S. iv. 326. 58 (1792); Meig; Mcq.; Zett. —*tricincta*, Fal.—*lateralis*, Desv. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, *scutello rufo-fulvo*, alis subcinereis, alulis albidis, abdomine elliptico subtessellato *lateribus rufo-fulvis*. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Frontalia deep black; bristles of the front descending along one-fourth of the face; face slightly oblique; facialia without bristles; epistoma somewhat prominent; lateralia red; palpi tawny. Antennæ not reaching the epistoma; third joint broad, sublinear, rounded at the tip, about twice the length of the second; *sixth* minutely pubescent, *stout for half the length*, full twice the length of the third. Costal vein ending at a little above the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at about seven-eighths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a right but not sharply defined angle at its flexure, from whence it is much curved inward to its tip; præbrachial transverse vein slightly clouded with brown; discal transverse vein with two distinct curves, parted from the border by rather less than half its length, and by full half its length from the flexure of the præbrachial. Abdomen elliptical.

Rare. (E.)

120. **rudis**, Fal. Msc. 27. 56 (1824); Meig.; Zett. Nigra, cano-tomentosa, capite albo, thorace nigro-trivittato, *scutello rufo*, alis subcinereis, alulis albis, abdomine nigro brevis-elliptico tessellato. Long.  $4\frac{1}{2}$ ; alar. 8 lin.

Bristles of the front descending along one-fourth of the face; frontalia piceous, slightly depressed; face very slightly oblique; facialia reddish; epistoma pale testaceous, slightly prominent; lateralia reddish; palpi tawny. Antennæ not reaching the epistoma; second joint ferruginous; third sublinear, slightly rounded at the tip, much longer than the second; *sixth* very minutely pubescent, *stout for half the length*, less than twice the length of the third, somewhat lurid at the base; veins black, testaceous at the base. Costal vein ending very little above the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at very much beyond half the length; radial vein ending at about seven-eighths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a not sharply defined right angle at its flexure, curved inward from thence to its tip; discal transverse vein with the two usual curves, which are very slight; parted from the hind border by less than half its length, and by full two-thirds of its length from the flexure of the præbrachial.

Not rare. (E.)

121. **intersita**, n. Nigra, cinereo-tomentosa, capite albo, palpis fulvis, *antennarum articulo sexto prope ad dimidium incrassato*, thorace nigro-quadrivittato, alis cinereis, alulis albidis, abdomine ovato, vitta dorsali et segmentorum marginibus posticis nigris. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia piceous-black, linear; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint twice longer than deep; third linear, slightly truncated, tawny at the base, twice the length of the second; fourth very short; fifth of moderate length; *sixth* bare, *stout to near half the length*, about twice the length of the third. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at very much beyond one-third of the length; mediastinal vein ending at very much beyond half of the length; radial vein ending at five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein much curved inward behind the middle, parted by less than its length from the flexure of the præbrachial and from the border.

Rare. In Mr. Desvignes's collection. (E.)

122. **laticella**, Mcq. A. S. E. F. vii. 373. 20 (1849). Atra, cano-tomentosa, capite albo, *antennarum articulo sexto ad trientem incrassato*, thorace nigro-trivittato, alis cinereis, alulis subcinereis, abdomine obconico tessellato. Long. 3; alar. 7 lin.

Frontalia deep black; bristles of the front descending to near half the length of the face; face oblique; epistoma not prominent. Antennæ almost reaching the epistoma; third joint straight above, slightly convex beneath, almost truncated at the tip, very much longer than the

second; *sixth stout* and very minutely pubescent *for one-third of the length*, more than twice the length of the third. Costal vein ending where the præbrachial meets it at a little above the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at beyond four-fifths of the length; cubital vein ending at very near the tip of the costal; præbrachial vein forming a very obtuse angle at its flexure, from whence to its tip it is hardly curved inward; discal transverse vein with the hind curve deeper than the other, parted from the border and from the flexure of the præbrachial by much less than its length.

Not rare. (E.)

123. **delitescens**, n. Nigra, cano-subtomentosa, capite albo, *palpis fulvis*, thorace nigro-vittato, scutello ferrugineo, alis subcinereis, alulis albidis, abdomine obconico subtessellato lateribus ferrugineis. Long. 4; alar. 9 lin.

Frontalia piceous, widening in front; bristles of the front descending to one-eighth of the face; epistoma not prominent; *palpi tawny*. Antennæ nearly reaching the epistoma; third joint slightly convex above, beneath, and at the tip, about twice the length of the second; sixth piceous, tapering, testaceous at the base, about twice the length of the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a slightly obtuse angle at its flexure, near which it is very slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two rather slight curves, parted from the border by about half its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

124. **augens**, n. Nigra, cano-tomentosa, capite albo, *palpis nigris*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdominis lateribus basi testaceis. Long. 3; alar. 6 lin.

Frontalia deep black, ferruginous towards the ocelli; bristles of the front descending to one-fourth of the face; front slightly prominent; epistoma white, prominent; lateralia tawny; *palpi black*. Antennæ almost reaching the epistoma; third joint linear, slightly oblique and almost obtuse at the tip, nearly twice the length of the second; fifth distinct; sixth very minutely pubescent, stout towards the base, less than twice the length of the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little more than one-third of the length; mediastinal vein ending at half the length; radial vein ending at a little beyond four-fifths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a curve at its flexure, almost straight from thence to its tip; discal trans-

verse vein with two slight curves, parted from the border by more than its length, and by little more than its length from the flexure of the præbrachial.

Rare. (E.)

125. **certans**, n. Nigra, cano-tomentosa, capite albo, *palpis fulvis*, thorace nigro-quinquevittato, alis subcinereis, alulis albis, abdomine obconico tessellato. Long. 4; alar. 8 lin.

Frontalia black; bristles of the front descending to one-fourth of the face; epistoma not prominent; *palpi tawny*. Antennæ almost reaching the epistoma; third joint rather broad, ferruginous at the base, almost truncated at the tip, nearly twice the length of the second; sixth slightly tapering from the base to the tip, more than twice the length of the third. Costal vein ending a little in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an almost right angle at its flexure, from which it is curved inward to its tip; discal transverse vein with two very indistinct curves, parted from the border by a little more than half its length, and by less than its length from the flexure of the præbrachial.

Rare. (E.)

126. **atrata**, Fal. Msc. 34. 71 (1810); Zett. Nigra, cinereo-tomentosa, capite albo, *palpis nigris*, thorace nigro-quadrivittato, alis sublimpidis basi subluridis, alulis subcinereis, abdomine longi-ovato hirsutissimo. Long. 3; alar. 7 lin.

Bristles of the front descending to one-fourth of the face; face short, vertical; epistoma not prominent; *palpi black*. Antennæ nearly reaching the epistoma; second joint longer than deep; third linear, rounded at the tip, nearly twice the length of the second; fourth indistinct; fifth very short; sixth very minutely pubescent, stout to one-sixth of the length, more than twice the length of the third. Costal vein with a spine at the tip of the subcostal, ending at a little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at a little before five-sixths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein with two distinct curves, parted by less than its length from the flexure of the præbrachial, and by half its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

127. **angustipennis**? Meig. Zw. iv. 333. 162 (1824); Mcq. Nigra, cano-subtomentosa, capite albo, *facialibus ad quartam setosis*, thorace nigro-trivittato, alis cinereis, alulis albo-subcinereis, abdomine



ovato, basi marginibus posticis vittaque dorsali nigris. Long.  $2\frac{3}{4}$ ; alar.  $3\frac{1}{2}$  lin.

Frontalia deep black; bristles of the front descending beyond one-third of the face; *facialia bristly for one-fourth of the length*; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rounded at the tip, almost twice the length of the second; sixth indistinctly pubescent, tapering gradually from the base to the tip, more than twice the length of the third; costal vein ending where the præbrachial meets it, a little in front of the tip of the wing; subcostal vein ending at full one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at beyond four-fifths of the length; cubital vein ending at very near the tip of the costal; præbrachial vein forming an obtuse angle at its flexure, from whence to its tip it is hardly curved inward; discal transverse vein with two rather deep curves, parted from the border by little more than half its length, and by three-fourths of its length from the flexure of the præbrachial.

Not rare. (E.)

128. **comosa**, n. Nigra, cano-subtomentosa, capite albo, *antennarum articulo sexto ad bis trientem incrassato*, alis cinereis basi et ad costam obscurioribus, alulis albis, abdomine obconico tessellato valde setoso. Long.  $2-2\frac{1}{2}$ ; alar. 4-5 lin.

Frontalia black, widening in front; bristles of the front descending to two-thirds of the face; face very slightly oblique; epistoma not prominent. Antennæ not reaching the epistoma; third joint linear, rather broad, almost truncated at the tip, more than twice the length of the second; fifth long; *sixth stout for two-thirds of the length*, much longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal close to its tip; præbrachial vein forming a slightly obtuse and not sharply defined angle at its flexure, near which it is much curved inward, and is thence straight to its tip; discal transverse vein curved inward in the middle, parted from the border and from the flexure of the præbrachial by much more than its length.

Rare. (E.)

129. **constans**, n. Nigra, cano-tomentosa, capite albo, *thorace nigro-quadrivittato, scutello ferrugineo*, alis subcinereis, alulis albis, abdomine obconico subtessellato. Long. 3; alar. 6 lin.

Frontalia piceous, broad; bristles of the front descending to nearly half the length of the face; epistoma not prominent; lateralia red; palpi long, slender. Antennæ not reaching the epistoma; third joint linear, almost truncated at the tip, much more than twice the length of the second; sixth very minutely pubescent, stout for much more than

half the length, very much longer than the third; *thorax with four black stripes*; *scutellum ferruginous*. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at hardly beyond five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very obtuse angle at its flexure, from whence it is almost straight to its tip; discal transverse vein with the fore curve a little more distinct than the other, which is hardly perceptible, parted from the border by very little more than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

130. **intersecta**, n. Nigra, cano-tomentosa, capite albo, *thorace nigro-trivittato*, alis cinereis, alulis albis, abdomine longi-obconico tessellato. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia deep black, linear; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint rather less than twice longer than deep; third decreasing in depth from the base to the tip, which is rounded, nearly twice the length of the second; fourth indistinct; fifth very short; sixth plumose to nearly half the length, stout for full one-fourth of the length, full twice the length of the third. *Thorax with three black stripes*. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at about half of the length; radial vein ending at a little beyond three-fourths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, which emits a short branch, much bent inward near this, almost straight from thence to the tip; discal transverse vein with very indistinct curves, parted by less than its length from the flexure of the præbrachial, and by much more than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

131. **erecta**, n. Nigra, cano-tomentosa, capite albo, *facialibus totis setosis*, pulpis fulvis, thorace nigro-quadrivittato, alis subcinereis, alulis cinereis, abdomine subelliptico, basi vitta dorsali et segmentorum marginibus posticis nigris. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia deep black, linear; bristles of the front descending to a quarter of the face; face very slightly oblique; *facialia beset with bristles for the whole length*. Antennæ reaching the epistoma; second joint not longer than deep; third linear, slightly truncated, more than four times the length of the second; fourth almost obsolete; fifth short; sixth bare, stout for one-third of the length, very much longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein

ending at about five-sixths of the length; cubital vein ending at near the tip of the costal; præbrachial vein forming an obtuse angle at its flexure, straight from thence to near its tip, where it is very slightly inclined inward; discal transverse vein nearly straight, parted by a little less than its length from the flexure of the præbrachial, and by much less from the border.

Rare. In the late Mr. Stephens's collection. (E.)

132. **denotans**, n. Nigra cano-tomentosa, capite albo, antennis basi palpisque testaceis, *thorace nigro-quadrivittato*, alis subcinereis, alulis albidis, abdomine longi-obconico subcylindrico, pedibus fulvis, tarsis nigris. Long. 3; alar. 5 lin.

Head testaceous in front. Frontalia reddish, slightly depressed, widening much in front; bristles of the front not extending along the face; facialia without bristles; epistoma rather prominent. Antennæ not reaching the epistoma; third joint linear, rounded at the tip, much longer than the second; sixth plumose, with rather long hairs, thick at the base, more than twice the length of the third. *Thorax with four interrupted black stripes*. Costal vein ending a little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at about half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal almost at its tip; præbrachial vein forming an obtuse, and not sharply defined angle at its flexure, from whence it is very slightly inclined inward to its tip, which joins the cubital vein almost at the tip of the latter; discal transverse vein with two very slight curves, parted from the border by very little less than its length, and by much more than its length from the flexure of the præbrachial.

Rare. (E.)

133. **contempta**, n. Nigra, cano-tomentosa, capite albo, *thorace nigro-trivittato*, alis subcinereis, alulis albis, abdomine ovato tessellato. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia with grey tomentum; bristles of the front descending to one-third of the face; facialia without bristles; epistoma slightly prominent. Antennæ not reaching the epistoma; third joint broad, straight above, convex beneath, oblique at the tip, very much longer than the second; sixth pubescent, stout towards the base, much more than twice the length of the third. *Thorax with three black stripes*. Costal vein ending where the præbrachial meets it, far in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at half the length; radial vein ending at before four-fifths of the length; cubital vein ending at very near the tip of the costal; præbrachial vein forming a right angle at its flexure, which emits a long branch; near this it is curved inward, and is thence almost straight to its tip; discal transverse vein with the two usual curves, which are extremely slight; it has also a short outward curve

on the hind part, and is parted from the border by very much more than its length, and by less than its length from the flexure of the præbrachial.

Rare. (E.)

134. **objecta**, n. Nigra, cano-tomentosa, capite albo, *antennis basi rufis, thorace non vittato*, alis subcinereis, alulis albidis, abdomine ovato, vitta dorsali et segmentorum marginibus posticis nigris, pedibus fulvis, femoribus basi et tarsis nigris. Long. 2; alar. 4 lin.

Frontalia deep black, linear; bristles of the front descending along the whole face; face vertical; facialia without bristles; epistoma not prominent; lateralia reddish; palpi tawny. *Antennæ* nearly reaching the epistoma; *first and second joints red*; second nearly twice longer than deep; third linear, rounded at the tip, longer than the second; fourth indistinct; fifth short; sixth minutely pubescent, stout for one-fourth of the length, full twice the length of the third. *Thorax not striped*. Costal vein with a spine by the tip of the subcostal, ending at some distance in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at much before half of the length. Radial vein ending at about four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at its flexure, hardly curved inward, from thence to the tip, which joins the tip of the cubital; discal transverse vein, with two slight curves, parted by more than its length from the flexure of the præbrachial and from the border.

Rare. In the late Mr. Stephens's collection. (E.)

135. **demissa**, n. Nigra, gracilis, capite albo, palpis fulvis clavatis, *thorace non vittato*, alis cinereis antice nigricantibus, alulis albis, abdomine fusiformi hirsutissimo. Long. 3; alar. 5 lin.

Frontalia piceous black, widening in front; bristles of the front descending along the whole face; face vertical; facialia without bristles; epistoma not prominent. *Antennæ* reaching the epistoma; second joint much longer than deep; third linear, truncated, twice the length of the second; fourth indistinct; fifth very short; sixth bare, stout to one-fourth of the length, nearly twice the length of the third. *Thorax not striped*. Costal vein a little convex as far as the tip of the subcostal, ending at some little distance in front of the tip of the wing; subcostal vein ending at one third of the length; mediastinal vein ending at very little beyond one third of the length; radial vein ending at five-sixths of the length; cubital vein ending at the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, with two indistinct curves between that and the tip, which joins the cubital far from the tip of the latter; discal transverse vein parted by much more than its length from the border, and by nearly twice its length from the flexure of the præbrachial.

Rare. In Mr. Desvignes's collection. (E.)

136. **læta**, (Weid.), Meig. Zw. iv. 381. 245 (1824). Nigra, cervino-tomentosa, capite flavo, facie alba, antennis ferrugineis, thorace nigro-quadrivittato, alis subcinereis, alulis albis, *abdomine fulvo* obconico, vitta dorsali et segmenti tertii margine postico nigris, pedibus fulvis, tibiis basi tarsisque nigris. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

Frontalia black; bristles of the front descending to one-fourth of the face; face vertical; facialia bristly for three-fourths of the length; epistoma not prominent; palpi testaceous. Antennæ reaching the epistoma; second joint not longer than deep; third linear, piceous towards the tip, which is rounded, full eight times the length of the second; fourth extremely short; fifth short; sixth bare, stout for five-sixths of the length, a little longer than the third; wings pale brown at the base and along the fore border. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at a little before five-sixths of the length; cubital vein ending near the costal; præbrachial vein forming an obtuse angle at the flexure, very slightly curved inward from thence to the tip; discal transverse vein with two very distinct curves, parted by much less than its length from the flexure of the præbrachial, and by little more than half its length from the border.

Rare. In the late Mr. Stephens's collection. (E.)

137. **rejecta**, n. Nigra, cano-subtomentosa, capite albo, thorace nigro-vittato, alis subcinereis, *vena præbrachiali angulum rectum fingente*, alulis albis, abdomine longi-obconico, marginibus anticis albis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia dark ferruginous; bristles of the front descending along half the face; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rather broad, rounded at the tip, about four times the length of the second; fifth long; sixth stout for more than half the length, much longer than the third. Costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at much before half the length; radial vein ending at about three-fourths of the length; cubital vein joining the costal almost close to its tip; *præbrachial vein forming a right angle* at its flexure, near which it is much curved inward, and is thence straight to its tip, which joins the cubital at some distance from the tip of the latter; discal transverse vein very slightly curved inward in the middle; parted from the border by very much more than its length, and by much more than its length from the flexure of the præbrachial.

Rare. (E.)

138. **neglecta**, n. Nigra, cano-tomentosa, capite albo, thorace nigro-quadrivittato, alis subcinereis, *vena præbrachiali angulum perobtusum fingente*, alulis albis, abdomine obconico tessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia piceous; bristles of the front descending to two-thirds of the face; face slightly oblique; epistoma not prominent; lateralia red. Antennæ reaching the epistoma; third joint linear, truncated at the tip, nearly four times the length of the second; sixth very minutely pubescent, stout for more than half the length from the base, much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending before half the length; radial vein ending before four-fifths of the length; cubital vein joining the costal near its tip. *Præbrachial vein forming a very obtuse angle* at its flexure, from whence it is almost straight to its tip; discal transverse vein with two slight curves, parted from the border by more than its length, and by its length from the flexure of the præbrachial.

Rare. (E.)

139. **retracta**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad sextam setosis*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico, vitta dorsali et segmentorum marginibus posticis nigris. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Head rather prominent in front. Frontalia piceous, linear, striated; bristles of the front descending to half the length of the face; face slightly oblique. *Facialia bristly for one-sixth of the length*. Epistoma not prominent. Antennæ reaching the epistoma; second joint longer than deep; third linear, slightly truncated, full four times the length of the second; fourth short; fifth rather long; sixth bare, stout for three-fourths of the length, hardly longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very slightly obtuse angle at the flexure, which emits a very short branch, very slightly bent inward near this, and thence almost straight to the tip; discal transverse vein slightly bent inward, parted by its length from the flexure of the præbrachial, and by much more than its length from the border.

Rare. In Mr. Desvignes's collection. (E.)

140. **consanguinea**, Mcq. A. S. E. F. vii. 387. 46 (1849). Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad dimidium incrassato*, thorace nigro-quadrivittato, *scutelli apice ferrugineo*, alis subcinereis, alulis albis, abdomine ovato subtessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia broad; bristles of the front descending to half the length of the face; face hardly oblique; epistoma not prominent; lateralia red. Antennæ reaching the epistoma; third joint linear, almost truncated at the tip, nearly four times the length of the second; fifth long; sixth very minutely pubescent; *stout for about half the length*, very

much longer than the third. Costal vein ending on the fore border at a little distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at before five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse angle at its flexure, between which and its tip it is slightly curved inward; discal transverse vein with two very indistinct curves, parted from the border by much more than its length, and by a little less than its length from the flexure of the præbrachial.

Rare. (E.)

141. **amabilis**, Meig. Zw. iv. 374. 232 (1824). Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad trientem incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albidis, abdomine longi-ovato tessellato. Long.  $2\frac{3}{4}$ ; alar. 5 lin.

Frontalia deep black, broad, linear; bristles of the front descending to three-fourths of the face; face oblique; epistoma not prominent. Antennæ reaching the epistoma; second joint not longer than deep; third linear, slightly truncated, six times the length of the second; fourth and fifth very short; *sixth* bare, *stout for one-third of the length*, longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at half of the length; radial vein ending at four-fifths of the length; cubital vein ending near the tip of the costal; præbrachial vein forming a hardly obtuse angle at the flexure, which emits a long indistinct branch, curved inward near this; discal transverse vein with two indistinct curves, parted by its length from the flexure of the præbrachial, and by much more from the border.

Rare. In Mr. Desvignes's collection. (E.)

142. **camestris**, Fal. Msc. 8. 12 (1810); Meig.; Mcq.; Zett. Nigra, cinereo-tomentosa, capite porrecto albo, *facialibus ad dimidium setosis*, alis subcinereis, alulis albidis, abdomine obconico tessellato. Long.  $2\frac{1}{2}$ –3; alar.  $4\frac{1}{2}$ –5 lin.

Frontalia striated; bristles of the front descending to one-eighth of the face; face oblique; *facialia bristly for half the length*; epistoma slightly prominent. Antennæ reaching the epistoma; third joint linear, rounded at the tip, about sixth times the length of the second; sixth microscopically pubescent, stout for more than half the length from the base, a little longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein at a little beyond one-third of the length; mediastinal vein ending at a little before half the length; radial vein at about five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very slightly obtuse angle at its flexure, near which it is curved inward, and is thence almost straight to its tip; discal transverse vein with two very slight curves, parted from the border by very much

more than its length, and by more than its length from the flexure of the præbrachial.

Not rare. (E.)

143. **multans**, n. Nigra, cano-tomentosa, capite argenteo, *facialibus ad bis trientem setosis, antennarum articulo sexto ad apicem incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico tessellato. Long.  $3\frac{1}{2}$ ; alar.  $5\frac{1}{2}$  lin.

Frontalia ferruginous, widening behind; bristles of the front descending to one-sixth of the face; face very slightly oblique; *facialia bristly for two-thirds of the length*; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; second joint not longer than deep; third linear, truncated, more than six times the length of the second; fourth almost obsolete; fifth very shorth; *sixth bare, stout to the tip*, as long as the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at the flexure, slightly curved inward from thence to the tip; discal transverse vein with two very indistinct curves, parted by much more than its length from the border, and by much less from the flexure of the præbrachial.

Rare. In the late Mr. Stephens's collection. (E.)

144. **assimilis**, Fal. Msc. 28. 58 (1810); Meig.; Zett.; Mcq. A. S. E. F.—*agilis*, Desv.; Mcq. D. Nigra, cano-tomentosa, capite albo, *facialibus ad plus dimidium setosis, antennarum articulo sexto fere ad dimidium incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine longi-obconico tessellato. Long.  $3\frac{1}{2}$ –4; alar. 7–8 lin.

Frontalia deep black; bristles of the front descending to one-sixth of the face; face slightly oblique. *Facialia bristly for more than half the length*; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; third joint linear, subconical at the tip, about four times the length of the second; *sixth stout for nearly half the length*, nearly twice the length of the third. Costal vein ending in front at some little distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at about half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse angle at its flexure, near which it is very slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two very indistinct curves, parted from the border by its length, and by much less than its length from the flexure of the præbrachial.

Not rare. (E.)

145. **munita**, n. Nigra, cano-tomentosa, capite albo, *facialibus ad*



*bis trientem setosis, antennarum articulo sexto basi incrassato, thorace nigro-quadrivittato, scutello rufo, alis subcinereis, venis fusco subnebulosis, alulis albis, abdomine longi-obconico tessellato. Long.  $4\frac{1}{2}$ ; alar. 10 lin.*

Frontalia deep black, striated, widening towards the antennæ; bristles of the front descending to half the length of the face; front prominent. *Facialia bristly for two-thirds of the length*; epistoma prominent; palpi tawny. Antennæ reaching the epistoma; third joint about four times the length of the second; flat above, slightly convex beneath, obliquely rounded at the tip; fourth and fifth short; sixth very minutely and almost imperceptibly pubescent, *stout towards the base*, almost twice the length of the third. Costal vein ending at not far from the tip of the wing; subcostal vein at a little more than one-third of the length; mediastinal vein more than half the length; radial vein ending before four-fifths of the length; cubital vein joining the costal at a short distance from the præbrachial; præbrachial vein forming an obtuse angle at its flexure, near which it is slightly inclined inward, and is thence almost straight to its tip; discal transverse vein with a curve at each end, parted from the border by a little less than its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

146. **leucocephala**, F. E. S. iv. 329. 74 (1792); Pz.; Fal.; Meig.; Desv.; Mcq.; Zett.—*labiata*, F. Nigra, cano-tomentosa, *capite argenteo micante, antennarum articulo sexto ad dimidium incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albidis, abdomine obconico fusco-tessellato. Long. 2–3; alar. 4–6 lin.

Head slightly conical in front; vertex with grey tomentum. Frontalia deep black; bristles of the front descending to one-fourth of the face; face oblique. Antennæ reaching the epistoma; third joint linear, oblique at the tip, about six times the length of the second; *sixth thick for half the length*, rather stout from thence to the tip, hardly longer than the third. Costal vein ending where the præbrachial meets it, at some distance from the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at half the length; radial vein ending at about four-fifths of the length; cubital vein ending at near the tip of the costal; præbrachial vein forming a very slightly obtuse angle at its flexure, which emits a very short branch; beyond this it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with the hind part slightly curved inward, parted from the border by very much more than its length, and by much less than its length from the flexure of the præbrachial.

Not rare. (E.)

147. **frontosa**, Meig. Zw. iv. 388. 259 (1824). Nigra, cinereo-

tomentosa, capite albo, *antennarum articulo sexto ad bis trientem incrassato*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine elliptico tessellato. Long.  $2\frac{1}{4}$ – $2\frac{1}{2}$  lin.; alar.  $4$ – $4\frac{1}{2}$  lin.

Frontalia deep black, linear; front prominent; bristles of the front descending to one-fourth of the face; face very oblique; epistoma not prominent. Antennæ reaching the epistoma; second joint very little longer than deep; third linear, truncated, four times the length of the second; fourth indistinct; fifth of moderate length; *sixth bare, stout for two-thirds of the length*, longer than the third. Costal vein ending at far in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at a little before half of the length; radial vein ending at beyond three-fourths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a right angle at the flexure, which emits a long branch, curved inward near this, and thence almost straight to the tip; discal transverse vein with two very slight curves, parted by less than its length from the flexure of the præbrachial, and by much more from the border.

Rare. In Mr. Desvignes's collection. (E.)

148. **quadricincta**, *Steph. MSS.* Nigra, cano-tomentosa, capite albo, *facialibus non setosis*, thorace nigro-quadrivittato, alis sublimpidis, alulis albidis, abdomine obconico, basi marginibus posticis vittaque dorsali nigris, femoribus subtus piccis. Long. 2; alar. 4 lin.

Frontalia piceous, slightly narrower in front; bristles of the front descending to one-third of the length of the face; face vertical; *facialia without bristles*; epistoma not prominent. Antennæ almost reaching the epistoma; second joint a little longer than deep; third linear, rounded at the tip, about four times longer than the second; fourth indistinct; fifth rather long; sixth very minutely pubescent, stout for half the length, rather less than twice the length of the third. Costal vein minutely ciliated, ending at a little in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending near the costal; præbrachial vein forming a very obtuse angle at the flexure, hardly curved inward, from thence to the tip; discal transverse vein with two slight curves, parted by a little more than its length from the flexure of the præbrachial, and by much more from the border.

Rare. In the late Mr. Stephens's collection. (E.)

149. **volatica**, *Meq. A. S. E. F. sér. 2. vii. 414. 95 (1849).* Nigra, cano-tomentosa, capite argenteo, *antennarum articulo sexto ad bis trientem setoso*, thorace nigro-quadrivittato, scutelli margine fulvo, alis subhyalinis, alulis albis, abdomine tessellato, lateribus basi ferrugineis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia deep black; front prominent; bristles of the front descending to nearly half the length of the face; epistoma testaceous, not prominent. Antennæ reaching the epistoma; third joint linear, slightly rounded at the tip, rather more than four times the length of the second; fifth rather long; *sixth* very minutely pubescent, much longer than the third, *stout for two-thirds of the length*. Costal vein ending above the tip of the wing; subcostal vein rather more than one-third of the length; mediastinal vein more than half the length; radial vein ending at much beyond three-fourths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming an obtuse angle at its flexure, between which and its tip it is slightly curved inward; discal transverse vein with two rather indistinct curves, parted from the border by very much more than its length, and by nearly its length from the flexure of the præbrachial.

Rare. (E.)

150. **nigrolineata**, Steph. MSS. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad trientem setoso*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine obconico, marginibus posticis vittaque dorsali nigris. Long.  $2\frac{3}{4}$ ; alar. 5 lin.

Frontalia piceous, linear; bristles of the front descending to one-third of the face; face oblique; epistoma not prominent. Antennæ reaching the epistoma; second joint not longer than deep; third linear, truncated, more than four times the length of the second; fourth almost obsolete; fifth rather short; *sixth* bare, *stout for full one-third of the length*, very much longer than the third. Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at five-sixths of the length; cubital vein ending very near the costal; præbrachial vein forming an obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein almost straight, parted by a little more than its length from the flexure of the præbrachial, and by a little less from the border.

Rare. In the late Mr. Stephens's collection. (E.)

151. **vulgaris**, Fal. Msc. 30. 62 (1810); Meig.; Zett. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad bis trientem incrassato*, thorace nigro-quadrivittato, scutello apice ferrugineo, alis subcinereis, alulis albis, abdomine obconico subtessellato. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia dark ferruginous; bristles of the front descending to one-third of the face; epistoma not prominent. Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, full four times the length of the second; *sixth stout for two-thirds of the length*, much longer than the third. Costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at a little beyond one-

third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at a little before five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an obtuse angle, between which and its tip it is very slightly curved inward; discal transverse vein with two very slight curves, parted from the border by nearly its length, and by much less than its length from the flexure of the præbrachial.

Not rare. (E.)

152. **inoperta**, n. Nigra, cano-tomentosa, capite albo, *palpis fulvis, antennarum articulo sexto ad dimidium incrassato, thorace nigro-quadrivittato*, alis cinereis, alulis subcinereis, abdomine obconico, vitta dorsali et segmentorum marginibus posticis nigris. Long. 4; alar. 8 lin.

Frontalia deep black, slightly widening in front; bristles of the front descending very little below the base of the antennæ; face vertical; epistoma not prominent; *palpi tawny*. Antennæ nearly reaching the epistoma; third joint linear, slightly truncated at the tip, full four times the length of the second; fourth obsolete; fifth distinct; *sixth* bare, very much longer than the third, *thick to half its length; thorax with four black stripes*. Costal vein ending at a short distance in front of the tip of the wing; subcostal vein ending at very little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very obtuse and not sharply defined angle at its flexure, nearly straight from thence to its tip; discal transverse vein with the hinder curve more distinct than the fore one, parted from the border and from the flexure of the præbrachial by a little less than its length.

Rare. (E.)

153. **audax**, Mcq. A. S. E. F. sér. 2. vii. 388. 48 (1849). Nigra, cano-tomentosa, capite albo, *palpis nigris, antennarum articulo sexto ad dimidium incrassato, thorace nigro-quadrivittato*, scutelli marginibus rufis, alis subcinereis, alulis albis, abdomine obconico subtessellato. Long. 4; alar. 8 lin.

Frontalia ferruginous along each side; bristles of the front descending to nearly half the length of the face; epistoma pale testaceous, not prominent; *palpi black*. Antennæ reaching the epistoma; third joint slightly decreasing in breadth beyond the base, almost truncated at the tip, about six times the length of the second; *sixth stout for half the length*, very much longer than the third; *thorax with four black stripes*. Costal vein ending at some little distance from the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a slightly obtuse angle at its flexure,

near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two extremely slight curves, parted from the border by its length, and by much less than its length from the flexure of the præbrachial.

Rare. (E.)

154. **inquilina.** Nigra, hirsutissima, cano-subtomentosa, capite albo, *antennarum articulo sexto ad plus trientem incrassato, thorace nigro-trivittato*, alis subhyalinis, alulis subcinereis, abdomine obconico, basi vitta dorsali et segmentorum marginibus posticis nigris. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Frontalia deep black, linear; bristles of the front descending to one-third of the face; face vertical; epistoma not prominent. Antennæ reaching the epistoma; second joint not longer than deep; third linear, subtruncated, four times the length of the second; fourth almost obsolete; fifth very short; *sixth* bare, *stout for more than one-third of the length*, much less than twice the length of the third; *thorax with three slender black stripes*. Costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at beyond four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming an obtuse angle at its flexure, hardly curved inward from thence to its tip; discal transverse vein straight, with the exception of an indistinct hinder inward curve, parted by hardly more than its length from the flexure of the præbrachial, and by hardly less from the border.

Rare. In the late Mr. Stephens's collection. (E.)

155. **insedata**, n. Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad trientem incrassato*, palpis fulvis basi obscurioribus, thorace nigro-quadrivittato, alis cinereis, *vena præbrachiali angulum fere rectum fingente*, alulis albis, abdomine longi-obconico tessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Frontalia deep black; bristles of the front descending nearly to half the length of the face; epistoma not prominent; lateral alia partly red. Antennæ reaching the epistoma; third joint linear, slightly rounded at the tip, more than four times the length of the second; *sixth* very minutely pubescent, *stout for one-third of the length*, nearly twice the length of the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at hardly one-third of the length; mediastinal vein ending at hardly half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal very near its tip; *præbrachial vein forming an almost right angle* at its flexure, from whence proceeds a slight clouded streak; between this and its tip it is very slightly curved inward; discal transverse vein with the hind curve much deeper and longer than the other, which is hardly perceptible, parted from the border by much more

than its length, and by more than its length from the flexure of the præbrachial.

Rare. (E.)

156. **concinata?** Meig. Zw. iv. 412. 301 (1824). Nigra, cano-tomentosa, capite albo, *antennarum articulo sexto ad trientem incrassato*, thorace nigro-quadrivittato, alis subcinereis, *vena præbrachiali angulum perobtusum fingente*, abdomine obconico subtessellato. Long. 4; alar. 7 lin.

Frontalia deep black, slightly widening in front; bristles of the front descending to one-third of the face from the base of the antennæ; face vertical; epistoma not prominent; palpi tawny. Antennæ nearly reaching the epistoma; second joint longer than deep; third almost linear, truncated at the tip, more than four times the length of the second; fourth very short; fifth distinct; sixth bare, full twice the length of the third, *stout for one-third of the length*. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal near its tip; *præbrachial vein forming a very obtuse* and not sharply defined *angle* at its flexure, from whence it is almost straight to its tip; discal transverse vein with two very slight curves, parted by much less than its length from the border, and by a little less from the flexure of the præbrachial vein.

Rare. In the late Mr. Stephens's collection. (E.)

157. **infensans**, n. Nigra, cano-subtomentosa, capite albo, *facialibus quarta excepta setosis*, thorace nigro-quadrivittato, scutello ferrugineo, alis subcinereis, alulis albis, abdomine obconico. Long. 4; alar. 8 lin.

Bristles of the front descending to one-fourth of the face; face slightly oblique; *facialia bristly for three-fourths of the length*; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rounded at the tip, full four times the length of the second; sixth very minutely pubescent, stout towards the base, much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a very little beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; præbrachial vein forming an almost right not sharply defined angle at its flexure, near which it is slightly curved inward, and is thence straight to its tip; discal transverse vein with two very slight curves parted from the border by less than its length.

Rare. (E.)

158. **angusta**, Mcq. A. S. E. F. sér. 2. viii. 469. 23 (1850). Nigra, cano-subtomentosa, capite albo, *facialibus fere totis setosis*, thorace

nigro-quadrivittato, scutello ferrugineo, alis subcinereis, alulis albis, abdomine obconico, segmenti secundi lateribus tibiisque ferrugineis. Long.  $3\frac{1}{2}$ ; alar. 6 lin.

Frontalia deep black; bristles of the front descending to one-third of the face; face oblique; *facialia* bristly along nearly the whole length; epistoma not prominent; lateralia red. Antennæ reaching the epistoma; third joint linear, rounded at the tip, more than four times the length of the second; sixth very minutely pubescent, tapering gradually from the base to the tip, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming an almost right angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two very slight curves, parted from the border by a little less than its length, and by less than its length from the flexure of the præbrachial.

Rare. (E.)

159. **spinipennis**, Meig. Zw. iv. 350. 192 (1824). Nigra, canotomentosa, capite albedo, frontalibus ferrugineis, *arista angulata*, thorace nigro-quadrivittato, alis sublimpidis, alulis albis, abdomine obconico, basi et marginibus posticis nigris. Long.  $2-2\frac{1}{4}$ ; alar.  $4-4\frac{1}{2}$  lin.

Frontalia broad; bristles of the front descending to one-sixth of the face; face slightly oblique; *facialia* bristly along the whole length; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; second joint a little longer than deep; third linear, rounded at the tip, four times the length of the second; fourth and fifth very long; sixth stout to the tip, nearly twice the length of the third, *forming an angle with the fifth*. Costal vein ending at hardly in front of the tip of the wing; subcostal vein armed with spines, ending at beyond one-third of the length; mediastinal vein ending at a little beyond half of the length; radial vein ending at about seven-eighths of the length; cubital vein joining the costal near its tip; præbrachial vein forming a very obtuse angle at the flexure, hardly curved inward from thence to the tip; discal transverse vein straight, parted by very much more than its length from the flexure of the præbrachial, and by a little more than its length from the border.

Rare. (E.)

160. **accidens**, n. Nigra, gracilis, capite albo, thoracis lateribus albedo-tomentosis, alis subcinereis, alulis pallide testaceis, abdomine cylindrico, segmentorum marginibus anticis albidis, *pedibus nigris*. Long. 3; alar.  $5\frac{1}{2}$  lin.

Frontalia deep black; bristles of the front not descending along the face; *facialia* bristly along three-fourths of the length; epistoma not

prominent. Antennæ reaching the epistoma; third joint linear, slightly oblique and almost truncated at the tip, about four times the length of the second; sixth pubescent, stout at the base, very much longer than the third. Costal vein ending at the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending at much before half the length; radial vein ending at about five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very obtuse and not sharply defined angle at its flexure, from whence it is almost straight till near its tip, where it is slightly inclined inward; discal transverse vein with two distinct curves, parted from the border by hardly more than half its length, and by a little less than its length from the flexure of the præbrachial. *Legs black.*

Rare. (E.)

161. **pallipes**, Fal. Msc. 22. 44 (1810); Meig.; Mcq. A. S. E. F. —*agilis*, Desv.; Mcq. D. Nigra, cinereo-tomentosa, capite flavo-albo, frontalibus ferrugineis, *facialibus ad sextam setosis*, thorace nigro-quadrivittato, scutello fulvo, alis subcinereis, alulis albis, abdomine obconico tessellato, *pedibus fulvis*. Long.  $4\frac{1}{2}$ ; alar. 10 lin.

Frontalia slightly wider in front; bristles of the front hardly descending below the base of the antennæ; face vertical; *facialia bristly along one-sixth of the length*; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; second joint red, not longer than deep; third sublinear, slightly truncated, about six times the length of the second; fourth very short; fifth distinct; sixth bare, thick for less than half the length, very much longer than the third. Costal vein ending at some distance in front of the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at a little beyond three-fourths of the length; cubital vein ending near the costal; præbrachial vein forming an obtuse angle at its flexure, near which it is very slightly inclined inward, and is thence almost straight to its tip; discal transverse vein with two very distinct curves, parted by very little less than its own length from the flexure of the præbrachial, and by much less from the border. *Legs tawny.*

Not common. (E.)

162. **antiqua**, Meig. Zw. iv. 412. 300 (1824).—*pallipes* var., Fal. Nigra, cinereo-tomentosa, capite albo, frontalibus rufis, *facialibus ad dimidium setosis*, antennis basi fulvis, *articulo tertio secundo triplo longiore*, thorace nigro-quadrivittato, alis subcinereis, alulis albis, abdomine ovato, vitta dorsali nigra, *pedibus fulvis*, tarsis nigris. Long.  $2\frac{3}{4}$ ; alar. 6 lin.

Frontalia deep red; bristles of the front descending to one-third of the face; *facialia bristly for nearly half the length*; epistoma not prominent; palpi slender, tawny. Antennæ reaching the epistoma; third slightly increasing in breadth towards the tip, which is truncated, *about thrice the length of the second*; sixth stout for nearly half the length,



longer than the third. Costal vein ending at hardly above the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal at its tip; præbrachial vein ceasing on approaching the border of the wing, and with no flexure; discal transverse vein almost straight, parted from the border by nearly twice its length. *Legs tawny*; tarsi black.

Not common. (E.)

163. **infestans**, n. Nigra, cervino-tomentosa, capite albido, *facialibus ad dimidium setosis*, antennis basi fulvis, articulo tertio secundo quadruplo longiore, thorace nigro-quadrivittato, alis subcinereis, basi subluridis, alulis albidis, abdomine ovato, *pedibus fulvis*, tarsis nigris. Long.  $2\frac{3}{4}$ ; alar.  $5\frac{1}{2}$  lin.

Frontalia piceous; bristles of the front descending to one-third of the face; *facialia* bristly along half the length; epistoma not prominent; palpi tawny. Antennæ reaching the epistoma; *third joint* sub-linear, hardly broader towards the tip, which is almost truncated, *about four times the length of the second*; sixth stout till near the tip, longer than the third. Costal vein ending at very little above the tip of the wing; subcostal vein ending at about one-third of the length; mediastinal vein ending at hardly half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very obtuse angle at its flexure, between which and its tip it is very slightly inclined inward; discal transverse vein straight, parted from the border and from the flexure of the præbrachial by twice its length. *Legs tawny*; tarsi black.

Rare. (E.)

164. **albicans?** Fal. Msc. 35. 74 (1810); Meig.; Zett. Nigra, cano-tomentosa, capite albo, *facialibus non setosis*, palpis fulvis, antennis basi ferrugineis, thorace nigro-quadrivittato, alis et alulis albidis, abdomine obconico, vitta dorsali et segmentorum marginibus posticis nigris, femoribus apice subtus tibiisque ferrugineis. Long.  $2\frac{1}{2}$ ; alar. 6 lin.

Frontalia red, slightly widening in front; bristles of the front descending to one-fourth of the length of the face; face vertical; *facialia* without bristles; epistoma not prominent. Antennæ reaching the epistoma; third joint slender, linear, truncated, four times the length of the second; fourth and fifth indistinct; sixth bare, stout for half the length, very much longer than the third. Costal vein ending at the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at beyond half of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending very near the tip of the costal; præbrachial vein forming a very obtuse angle at its flexure, hardly curved inward from thence to its tip;

discal transverse vein almost straight, parted by much less than its length from the border, and by a little less from the flexure of the præbrachial.

Rare. In the late Mr. Stephens's collection. (E.)

165. **impavida**, Mcq. A. S. E. F. vii. 395. 60 (1849). Nigra, cano-tomentosa, capite albo, *facialibus ad quartam setosis*, thorace nigro-quadrivittato, scutello apice ferrugineo, alis sublimpidis, alulis albidis, abdomine ovato subtessellato. Long. 3; alar. 6 lin.

Frontalia piceous; bristles of the front descending to one-third of the face; face very slightly oblique; *facialia bristly for one-fourth of the length*; epistoma not prominent. Antennæ reaching the epistoma; third joint linear, rather broad, almost truncated at the tip, full four times the length of the second; sixth very minutely pubescent, stout for two-thirds of the length, longer than the third. Costal vein ending at very little in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at beyond five-sixths of the length; cubital vein joining the costal very near its tip; præbrachial vein forming a very obtuse and not sharply defined angle at its flexure, very slightly curved inward near its tip; discal transverse vein with two very slight curves, parted from the border by a little less than its length.

Rare. (E.)

166. **carbonaria**, Pz.! Fn. liv. 15; Fal. Rhzm. 8. 9. Atra, nitens, angusta, capite albo-tomentoso, alis cinereis antice nigricantibus, *venis cubitali et præbrachiali in discum connexis*, alulis albis, abdomine fusiformi. Long. 2; alar. 4 lin.

Frontalia narrow; bristles of the front descending along one-third of the face; face vertical; facialia without bristles; epistoma not prominent. Antennæ nearly reaching the epistoma; second joint much longer than deep; third linear, slightly truncated, much longer than the second; fourth almost obsolete; fifth short; sixth stout at the base, plumose nearly to the tip, a little more than twice the length of the third. Costal vein with a spine by the tip, ending far in front of the tip of the wing; subcostal vein ending before one-third of the length; mediastinal vein ending at one-third of the length; radial vein ending at beyond five-sixths of the length; cubital vein ending at the tip of the costal; *præbrachial vein* forming a very slightly obtuse angle at the flexure, curved inward near this, and thence almost straight, and *joining the cubital at some distance from the tip of the latter*; discal transverse vein almost straight, parted by nearly twice its length from the flexure of the præbrachial and from the border.

Rare. In the late Mr. Stephens's collection. (E.)

## SUBFAMILY 3. DEXIDES.

*Stomoxydæ* p., Meig. *Dexiarie* p., Mcq.; Meig. *Stomoxydæ* p., Westw. *Tachinariæ* p., Westw.

*Arista pubescens, aut plumosa. Thorax brevis. Alulæ magnæ. Pedes longi.*

*Arista pubescent, or plumose. Thorax short. Alulæ large. Legs long.*

The *Dexides* might cease to be considered as a subfamily, for part of the species therein seem to belong to the *Tachinides*, and the rest to the *Muscides*.

*a. Proboscis long, geniculate at the base. PROSENA.*

*a a. Proboscis short. DEXIA.*

## Genus I. PROSENA.

PROSENA, St. Farg. et Ser. Enc. Méth. (1830). Westw.; Mcq.; Meig. Zw. vii. *Stomoxys* p., F.; Gmel.; Latr.; Pz.

Corpus magnum, subcylindricum, pubescens, setosum, opacum. Oculi mediocres, oblongi, in utroque sexu remoti. *Proboscis longa*, porrecta, basi geniculata. Palpi parvi, breves, clavati, pilosuli.

Body large, nearly cylindrical, pubescent, bristly, dull. Eyes of moderate size, oblong, remote in both sexes. *Proboscis long*, porrect, geniculated at the base. Palpi small, short, clavate, somewhat pilose.

1. **siberita**, F. S. I. ii. 467. 3 (1781); Gmel.; Fal.; Latr.; Meig. —*grisea*, F.—*longipes*, Gmel.—*irritans*, Pz. ! Fn. v. 24. Nigra, cinereo-tomentosa, capite testaceo albo-tomentoso, frontalibus luteis, antennis pedibusque testaceis, alis subcinereis, tarsis nigris; *Mas*, abdominis lateribus testaceis. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

Black. Head testaceous, with shining white tomentum; frontalia pale luteous, widening in front, with bristles along each side; facialia bristly along the whole length; epistoma slightly prominent. Proboscis black, testaceous towards the base. Palpi testaceous. Antennæ testaceous, not nearly reaching the epistoma; third joint linear, rounded at the tip, about thrice the length of the second; sixth plumose, with long hairs, very much longer than the third. Thorax with four very slender interrupted black stripes. Wings pale grey; veins testaceous; costal vein ending at a little in front of the tip of the wing, with a spine by the tip of the subcostal; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at rather beyond half the length; radial vein ending at about four-fifths

of the length; cubital vein ending at near the tip of the costal; præbrachial vein emitting a very short branch at its flexure, which forms a right angle, from thence it is slightly curved inward to the tip; discal transverse vein with two extremely slight curves, parted by a little less than its length from the flexure of the præbrachial, and by much less from the border. Alulæ whitish. Halteres testaceous. Abdomen with a black triangular spot at the base. Legs testaceous; tarsi black. Var.  $\beta$ . Hind borders of the third and fourth abdominal segments black. *Male*. Front and frontalia narrow. Abdomen long-obconical, testaceous on each side. *Fem*. Front and frontalia broad. Abdomen oval.

Not rare. (E.)

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## Genus II. **DEXIA.**

DEXIA p., Meig. Zw. v. 3 (1826); Latr.; Mcq.; Zett. *Musca* p., F.; Gmel.; Panz.; Fal. *Ocyptera* p., F. *Volucella*, Schr. *Dexia* et *Dinera*, Westw.

Corpus magnum aut mediocre, subcylindricum aut oblongum, pubescens, setosum. Oculi oblongi, nudi, in mare approximati, in femina sat remoti. *Proboscis brevis*. Palpi filiformes aut subclavati, setulosi.

Body large or of middle size, oblong or nearly cylindrical, pubescent, bristly. Eyes oblong, bare, approximate in the male, rather remote in the female. *Proboscis short*. Palpi filiform or subclavate, somewhat bristly.

*a*. Præbrachial vein joining the cubital.

*b*. Abdomen compressed.—*Ocyptera* p., Fabr.—*Sericocera* p., Mcq.—*Wiedemannia*, Meig. Zw. vii. Species 1.

*b b*. Abdomen not compressed.—*Dinera*, *Estheria* et *Aria*, Desv.—*Dinera*, Mcq. Species 2.

*a a*. Præbrachial vein joining the costal.

*b*. Sixth joint of the antennæ plumose, with short hairs.—*Ocyptera* p., F.; *Musca* p., Fab.; Zett. I. L.—*Phyllomyia*, Desv.—*Sericocera* p., Mcq.—*Melania*, p. Meig. Species 3.

*b b*. Sixth joint of the antennæ plumose, with long hairs.

*c*. Palpi long.—*Musca* p., F.; Panz.; Fal.—*Thelaira*, Desv.—*Sericocera* p., Mcq. Species 4.

*c c*. Palpi short. Species 5–8.

The first, third, and fourth of the following species appear to be *Tachinides*, the rest and *Prosenia* might be joined to the *Muscides*.

1. **compressa**, F. E. S. iv. 327. 64 (1792); Meig.; Mcq.; Desv.; Zett.—*lurida*, Schr.—*rufa*, F.—*lateralis*, Panz.! Fr. vii. 22.—*rufiven-*

*tris*, Fal. Nigra, frontalibus atris, palpis fulvis, thorace fusco-trivittato, antennis basi abdominis lateribus femoribusque rufis, alis subcinereis. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

Black. Head with silvery tomentum; frontalia deep black; facialia without bristles; epistoma not prominent. Eyes bare. Palpi tawny. Antennæ reaching the epistoma; first and second joints red; third joint red at the base, sublinear, slightly broader towards the tip, which is rounded, about four times the length of the second; sixth minutely pubescent, stout towards the base, more than twice the length of the third. Thorax with whitish tomentum, which is interrupted by two dark brown stripes. Wings slightly grey; costal vein ending at a short distance in front of the tip, with two spines by the tip of the subcostal vein; subcostal vein ending at a little before one-third of the length; mediastinal vein ending at much beyond one-third of the length; radial vein ending at about six-sevenths of the length; cubital vein ending near the tip of the costal; præbrachial vein emitting a long branch from its flexure, which forms a very slightly obtuse angle; near this it is slightly curved inward, and thence is almost straight to its tip; discal transverse vein with two distinct curves, parted from the border by much more than half its length, and by a little more than half from the flexure of the præbrachial. Abdomen subcompressed, elongate-fusiform, with silvery-white reflections along the middle and on each side; first, second, and third segments red on each side. Femora red.

Not common. (E.)

2. **cristata?** Meig. Zw. v. 41. 14 (1826); Mcq.; Zett. Nigra, cinereo-tomentosa, capite antice palpis antennis scutello abdomine pedibusque testaceis, frontalibus rufis, thorace quadrivittato, scutello basi abdominis vitta tarsisque nigris, alis subcinereis. Long.  $4\frac{1}{2}$ ; alar. 10 lin.

*Fem.* Black, with cinereous tomentum. Head with whitish tomentum, testaceous in front. Frontalia red, widening much in front, bordered on each side with a single row of bristles which extend to the base of the antennæ; epistoma slightly prominent; eyes bare; proboscis and palpi testaceous. Antennæ testaceous, not near reaching the epistoma; third joint little more than twice the length of the second; fourth and fifth short, distinct; sixth stout and black towards the base, twice the length of the third. Thorax with four slender interrupted black stripes; scutellum testaceous except at the base. Wings slightly grey; costal vein ending at a little in front of the tip of the wing; subcostal vein ending at a little beyond one third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at about four-fifths of the length; præbrachial vein emitting a short branch, and forming a right angle at the flexure, near which it is slightly inclined inward, and is thence almost straight to its

junction with the cubital; discal transverse vein with a deep hinder inward curve, parted by much less than its length from the flexure of the præbrachial and from the border. Halteres, abdomen and legs testaceous. Abdomen long-obconical, with an irregular black stripe. Tarsi black.

Not rare. (E.) Meigen and Zetterstedt describe *D. cristata* as having brown antennæ, the abdomen with brown spots, not testaceous, and the femora black.

3. **volvulus**, F. E. S. iv. 328. 67 (1792); Fal.; Meig.; Mcq.; Zett.—*cylindrica*, Fal. Nigra, albo-tomentosa, capite antice argenteo, frontalibus atris, palpis fulvis, alis subcinereis basi albidis. Long. 4; alar. 7 lin.

Black, with white tomentum on the thorax and on the fore-borders of the abdominal segments. Head silvery in front, clothed beneath with white hairs. Frontalia deep black, widening in front; facialia without bristles; epistoma not prominent. Eyes bare. Palpi tawny. Antennæ almost reaching the epistoma; third joint slightly rounded at the tip, more than four times the length of the second; sixth plumose with short hairs, stout at the base, about twice the length of the third. Wings greyish, whitish at the base; costal vein ending at hardly in front of the tip of the wing; subcostal vein ending much before one-third of the length of the wing; mediastinal vein ending much before half the length; radial vein ending before seven-tenths of the length; cubital vein ending at a little in front of the tip; præbrachial vein forming a very obtuse angle at its flexure, beyond this it is indistinctly curved inward; discal transverse vein very slightly undulating, parted from the border by much more than half its length, and by a little less than its length from the flexure of the præbrachial. Alulæ whitish. Abdomen fusiform.

Not rare. (E.)

4. **nigripes**, F. E. S. iv. 319. 30 (1792); Panz.! Fn. civ. 18.; Meig.; Mcq.—*lateralis*, Fal. (mas).—*leucozona*, Panz. Fn. civ. 19; Meig.; Mcq.; Zett.—*nigrina*, Fal. (fœm.) Nigra, cano-tomentosa, capite argenteo, frontalibus atris, palpis fulvis, thorace quadrivittato, alis cinereis; *Mas*, lateralibus scutellique apice ferrugineis, abdomine obconico lateribus testaceis; *Fœm*. abdomine subfusiformi albo-quadrinaculato. Long. 4–5½; alar. 8–12 lin.

Black, with hoary tomentum. Head with silvery tomentum. Frontalia deep black; facialia bristly for about one-fourth of the length; epistoma hardly prominent. Eyes bare. Palpi tawny. Antennæ nearly reaching the epistoma. Thorax with four very slender stripes. Wings grey; costal vein ending at very little in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending a little beyond half the length; radial vein ending at a little beyond five-sixths of the length; cubital vein joining

the costal very near its tip; præbrachial vein forming an obtuse and not sharply defined angle at its flexure, very slightly inclined inward from thence to its tip; discal transverse vein with two distinct curves, parted from the border by less than its own length. Alulæ whitish.

*Male.* Lateralis ferruginous; third joint of the antennæ full twice the length of the second; sixth more than twice the length of the third; scutellum ferruginous towards the tip. Abdomen obconical, with hoary reflections; first, second, and third segments testaceous on each side. *Fem.* Smaller than the male. Third joint of the antennæ full thrice the length of the second; sixth nearly twice the length of the third. Abdomen subfusiform; foreborders of the second and third segments with a large white tomentose spot on each side.

Not rare. (E.)

5. **rustica**, F. S. I. ii. 440. 26 (1781); Gmel.; Meig.; Mcq.; Zett. Nigra, cinereo-tomentosa, capite albido, frontalibus atris, lateralibus rufis, palpis pedibusque fulvis, antennis abdomineque testaceis, thorace fusco-quadrivittato, alis subcinereis, venis subnebulosis, *vena præbrachiali ramulum perbreve ad flexuram emittente apicem versus vix arcuata*, abdominis vitta tarsisque nigris. Long. 6; alar. 12 lin.

*Fem.* Black, with cinereous tomentum. Head with whitish tomentum. Frontalia deep black, slightly widening in front; epistoma not prominent; lateralis red; proboscis and palpi tawny. Antennæ testaceous, not near reaching the epistoma; third joint little more than twice the length of the second; sixth stout at the base, nearly twice the length of the third. Thorax with four brown stripes, the side pair much interrupted. Wings slightly grey; veins indistinctly clouded; costal vein ending at a little in front of the tip of the wing, with a spine at the tip of the subcostal; subcostal vein ending at beyond one-third of the length; mediastinal ending at beyond one-half of the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal near its tip; *præbrachial vein emitting an extremely short branch*, and forming a right angle at its flexure, very slightly inclined inward from thence to its tip; discal transverse vein with a distinct inward hinder curve, parted by little less than its length from the flexure of the præbrachial, and by much less from the border. Alulæ whitish. Abdomen testaceous, long-obconical, with a black dorsal stripe. Legs tawny; tarsi black.

Not rare. (E.)

6. **vacua**, Fal. Act. Holm. (1816); Meig.; Mcq.; Zett. Nigra, cinereo-tomentosa, capite albido, frontalibus atris, lateralibus fulvis, palpis antennis abdomine pedibusque testaceis, thorace quadrivittato, alis cinereis basi albidis, *vena præbrachiali ramulum brevem ad flexuram emittente apicem versus valde arcuata*, abdominis vitta fasciis duabus tarsisque nigris. Long.  $3\frac{3}{4}$ ; alar. 8 lin.

Black, with cinereous tomentum. Head with whitish tomentum;

frontalia narrow, deep black, widening in front; epistoma slightly prominent; lateralia tawny; proboscis and palpi testaceous. Antennæ testaceous, not reaching the epistoma; third joint about thrice the length of the second; sixth stout at the base, less than twice the length of the third. Thorax with four very slender black stripes. Wings grey, whitish at the base; costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at about four-fifths of the length; cubital vein joining the costal very near its tip; *præbrachial vein emitting a short branch, and forming a right angle at its flexure, near which it is much curved inward*; discal transverse vein with two slight curves, parted by less than its length from the flexure of the præbrachial, and by much less from the border. Abdomen long-obconical, testaceous; dorsal stripe and hind borders of the third and fourth segments black. Legs testaceous; tarsi black.

Not rare. (E.)

7. **fingens**, n. Nigra, albo-tomentosa, capite antice fulvo, frontilibus piceis, palpis abdomineque testaceis, antennis luteis, thorace quadrivittato, alis subcinereis, *vena præbrachiali ramulum brevem ad flexuram emittente apicem versus fere recta*, pedibus fulvis, tarsis nigris. Long. 4; alar. 9 lin.

Black, with white tomentum. Head tawny in front; frontalia piceous; palpi testaceous. Antennæ luteous; third joint twice the length of the second; sixth black. Thorax with four slender interrupted black stripes. Wings slightly grey; veins indistinctly clouded; costal vein ending at some little distance in front of the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at four-fifths of the length; cubital vein joining the costal near its tip; *præbrachial vein forming a right angle and emitting a short branch at its flexure, nearly straight from thence to the tip*; discal transverse vein with two very slight curves, parted by much less than its length from the flexure of the præbrachial, and by still less from the border. Abdomen long-obconical, testaceous. Legs tawny; tarsi black.

Rare. (E.)

8. **canina**, F. S. I. ii. 440. 24 (1781); Gmel.; Fal.; Meig.; Mcq.; Zett. Nigra, fulvescente-tomentosa, capite albido-flavo, frontilibus ferrugineis, palpis flavis, antennis fulvis, thorace nigro-quadrivittato, alis subcinereis, *venæ præbrachialis flexura ramulum longum emittente*, abdomine vitta obscuriore, segmentorum marginibus posticis nigris, pedibus testaceis, tarsis nigris. Long.  $5\frac{1}{2}$ ; alar. 12 lin.

Black, with testaceous-tawny tomentum. Head with shining whitish-yellow tomentum beneath; frontalia ferruginous, narrow, slightly widening in front; epistoma slightly prominent; proboscis and palpi yellow.



Antennæ tawny, not reaching the epistoma; third joint more than twice the length of the second; sixth hardly longer than the third. Thorax with four black stripes, the outer pair much interrupted and much broader than the inner pair. Wings slightly grey; costal vein ending at very little in front of the tip of the wing, with a spine by the end of the subcostal; subcostal vein ending at one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at about four-fifths of the length; cubital vein ending at near the tip of the costal; *præbrachial vein emitting a long branch* and forming a right angle *at its flexure*, near which it is much curved inward, and is thence almost straight to its tip; discal transverse vein with two very slight curves, parted from the flexure of the præbrachial and from the border by much more than half its length. Alulæ whitish. Abdomen long-obconical, with an indistinct darker dorsal stripe; hind borders of the segments black. Legs testaceous; tarsi black.

Common. (E.)

The following additional species of *Dexia* have been recorded as British:—

1. *Dexia anthracina*, Meig.
2. „ *melanoptera*, Fal.
3. „ *nana*, Meig.
4. „ *maura*, F.
5. „ *caminaria*, Meig.
6. „ *melania*, Meig.
7. „ *picta*, Weid.
8. „ *carnifrons*, Fal.
9. „ *grisescens*, Fal.

#### SUBFAMILY 4. SARCOPHAGIDES.

*Sarcophaga* et *Trixa*, Meig. *Sarcophagiæ* et *Trixa*, Mcq.; Westw.  
*Sarcophagariæ* p. et *Trixa*, Zett.

*Caput non vesiculosum.* Antennæ breves aut mediocres; arista pubescens aut plumosa. *Thorax longus.* *Alulæ magnæ.*

*Head not vesiculose.* Antennæ short, or of moderate length; third joint generally soft; sixth pubescent or plumose, bare towards the tip. *Thorax long.* *Alulæ large.*

Most of the *Sarcophagides*, like some of the *Muscides*, are distinguished by the softness of the third joint of the antennæ. They are generally viviparous, and are quickly attracted by decaying matter, on which the larvæ feed.

a. Antennæ very short. 1. TRIXA.

a a. Antennæ of moderate length. 2. SARCOPHAGA.

Genus I. **TRIXA.**

**TRIXA**, Meig. Zw. 222 (1824); Mcq.; Zett.; Westw. *Crameria*, Desv.

Corpus pubescens, setosum. Frontalia striata. Epistoma non prominens. Palpi subclavati. *Antennæ brevissimæ*; articulus tertius subovatus, secundo plus duplo longior; sextus subpubescens. Abdomen subovatum.

Body bristly. Frontalia striated, slightly widening in front, with a double row of bristles on each side; face with very shallow furrows; facialia bristly along full half the length; epistoma not prominent; eyes bare; palpi subclavate. *Antennæ not near reaching the epistoma*; third joint subovate, more than twice the length of the second; fourth and fifth very short; sixth very minutely pubescent, more than twice the length of the third. Abdomen subovate.

*a.* Femora black. Species 1, 2.

*a a.* Femora tawny. Species 3.

1. **variegata**, Meig. Zw. iv. 225. 6 (1824); Mcq. Nigra, albotomentosa, frontalibus ferrugineis, facialibus rufis, palpis fulvis, antennis obscure rufis, thorace sexvittato, alis subcinereis, *abdomine nigro tessellato*, tibiis tarsisque ferrugineis. Long. 5; alar. 11 lin.

Black, with white shining tomentum. Frontalia dark ferruginous; facialia red; palpi tawny. *Antennæ* red; sixth joint black. Thorax with six black stripes. Wings slightly grey; veins black, partly tawny at the base; transverse veins clouded with brown; costal vein ending at a little in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half the length; radial vein ending at about four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein emitting a short branch, and forming a hardly obtuse angle at its flexure, near which it is slightly curved inward, and thence is almost straight to its tip; discal transverse vein with two curves, the hind one much deeper than the other, parted from the flexure of the præbrachial by a little more than half its length, and by much more from the border. Alulæ white. Halteres tawny. *Abdomen black*, tessellated. Legs ferruginous; femora black.

Not common. (E.)

2. **dorsalis**, Meig. Zw. iv. 225. 5 (1824); Mcq. Nigra, albotomentosa, frontalibus tibiis tarsisque ferrugineis, facialibus antennisque rufis, thorace sexvittato, alis subcinereis, *abdominis apice lateribusque fulvis*. Long. 5; alar. 11 lin.

Black, with white shining tomentum. Frontalia ferruginous; facialia red; palpi tawny. *Antennæ* red; sixth joint black; thorax with six black stripes. Wings slightly grey; veins black, partly tawny at the base; transverse veins clouded with brown; costal vein ending at a

little in front of the tip of the wing; subcostal vein ending at one-third of the length; mediastinal vein ending at half the length; radial vein ending at about four-fifths of the length; cubital vein ending very near the tip of the costal; præbrachial vein emitting a short branch, forming a hardly obtuse angle at its flexure, near which it is slightly curved inward, and is thence almost straight to its tip; discal transverse vein with two curves, the hind one much deeper than the other, parted from the flexure of the præbrachial by a little more than half its length, and by much more from the border. Alulæ white. Halteres tawny. *Abdomen tawny beneath at the tip, and on each side of the middle above.*

Not common. (E.)

3. **scutellata**, Newm. E. M. I. 507 (1833).—*obscura*, Zett. Nigra, cinereo-tomentosa, frontibus piceis, facie antennisque testaceis, palpis *pedibusque fulvis*, thorace quadrivittato, *alis* subcinereis *basi subflavis*. Long. 6; alar. 12 lin.

Black, with cinereous tomentum. Frontalia piceous; face testaceous; proboscis and palpi tawny. Antennæ testaceous; sixth joint black. Thorax with four black stripes. *Wings* slightly grey, *with a yellow tinge towards the base*; costal vein ending at a little in front of the tip of the wing; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at five-sixths of the length; cubital vein joining the costal near its tip; præbrachial vein emitting a short branch, and forming an obtuse angle at its flexure, almost straight from thence to its tip; discal transverse vein with two distinct curves, parted by more than half its length from the flexure of the præbrachial and from the border. Alulæ yellowish-white. Abdomen with black bands on the hind borders of the segments. *Legs tawny.*

Rare. (E.)

## Genus II. SARCOPHAGA.

SARCOPHAGA, Meig. Zw. v. 14 (1826); Westw.; Zett. *Musca* p., L.; D. G.; F.; Scop. *Cynomyia*, Gmel.; Schr.; Latr.; Fal. *Sarcophaga* et *Agria*, Mcq. *Myophora*, etc., Desv.

*Corpus elongatum*, pubescens, setosum. Frontalia substriata. Facialia non setosa. Epistoma vix prominens. Oculi in utroque sexu remoti, nudi. Antennæ mediocres. Abdomen maris subfusiforme apice tumidum, fœminæ subovatum.

*Body elongate.* Frontalia minutely striated, with a row of bristles along each side; facialia without bristles; epistoma very slightly prominent; facialia of the peristoma bristly; eyes bare. Antennæ not reaching the epistoma; third joint sublinear, rounded at the tip, very much

longer than the second; sixth near twice the length of the third, more or less plumose for a little more than half the length. Thorax long. Costal vein ending at a little in front of the tip of the wing; subcostal vein ending at hardly beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at beyond five-sixths of the length; cubital vein ending very near the tip of the costal. *Male*. Abdomen subfusiform, tumid at the tip. *Fem*. Abdomen subovate.

*a*. Palpi black. Abdomen black, tessellated.

*b*. Tip of the abdomen black.

*c*. Tibiæ of the male ciliated on the inner side. Species 1-4.

*c c*. Tibiæ bare in both sexes. Species 5.

*b b*. Tip of the abdomen red.

*c*. Tibiæ of the male ciliated on the inner side. Species 6, 7.

*c c*. Tibiæ bare in both sexes. Species 8.

*a a*. Palpi pale. Abdomen bright-blue or green. Species 9, 10.

1. **carnaria**, L. Fn. 1832 (1761); F.; Schr.; Gmel.; Fal.; Latr.; Meig.; Mcq.; Desv.; Zett.—*variegata*, Scop.; Réaum.; D. G. Nigra, *capite aureo-tomentoso*, *frontalibus atris*, *thorace albo-sexvittato*, *alis subcinereis*, *abdomine maculis albis quadrivittato*. Long. 5-6; alar. 11-13 lin.

Black. Head with pale gilded tomentum; frontalia deep black. Sixth joint of the antennæ deeply plumose. Thorax with six stripes of white tomentum, the two outer pairs irregular, the inner pair subdivided. Wings slightly grey; præbrachial vein forming a slightly obtuse angle at its flexure, near which it is curved inward, and thence is almost straight to its tip; discal transverse vein with two indistinct curves, parted from the border by less than its length, and by less than half its length from the flexure of the præbrachial. Alulæ white. Halteres ferruginous. Abdomen with four rows of white tomentose spots, which are most distinct in the male. Hind tibiæ of the male deeply ciliated.

Generally distributed. (E. S. I.)

2. **striata**, F. E. S. iv. 315. 13 (1792); Meig.; Mcq.; Zett.—*carnaria* var., Fal. Nigra, *capite supra subaureo antice albo-tomentoso*, *frontalibus atris*, *thorace albido-sexvittato*, *alis subcinereis*, *abdomine maculis albidis quadrivittato*. Long. 4-4½; alar. 8-9 lin.

Black, with whitish tomentum. Tomentum of the head slightly gilded above, shining white in front; frontalia deep black. Sixth joint of the antennæ deeply plumose. Thorax with six stripes of whitish tomentum, the two outer pairs irregular, the inner pair subdivided. Wings slightly grey; præbrachial vein forming a right angle at the flexure, much curved inward near this, and thence almost straight to the tip; discal transverse vein with two distinct curves, parted by much less than its length from the border, and by less than half its length from the flexure

of the præbrachial. Alulæ white. *Abdomen tessellated with four rows of whitish spots. Hind tibiae of the male rather deeply ciliated.*

Common. (E.)

3. **albiceps**, Meig. Zw. v. 22. 8 (1826); Mcq.; Zett. Nigra, capite albo-tomentoso, frontalibus piceis, thorace albido-sexvittato, alis sublimpidis, abdomine maculis albidis plerumque confluentibus sexvittato. Long.  $2\frac{1}{2}$ -3; alar. 6-7 lin.

*Fem.* Black, with whitish tomentum. *Head with shining white tomentum in front; frontalia piceous.* Sixth joint of the antennæ deeply plumose. *Thorax with six whitish stripes*, the two outer pairs connected in front, the inner pair intersected. Wings nearly limpid; præbrachial vein forming a hardly acute angle at the flexure, much curved inward near this, and thence almost straight to the tip; discal transverse vein with two very indistinct curves, parted by a little less than its length from the border, and by more than half its length from the flexure of the præbrachial. Alulæ white. *Abdomen tessellated, spots mostly confluent.*

Rare. In Mr. Saunders's collection. (E.)

4. **melanura**, Meig. Zw. v. 23. 11 (1826); Mcq.; Zett. D. S.—*albiceps*, Zett. I. L. Nigra, capite antice flavido-albo, frontalibus atris, thorace albido-sexvittato, alis subcinereis, abdomine maculis albidis quadrivittato. Long. 3-4; alar. 6-8 lin.

Black, with cinereous-white tomentum. *Head yellowish-white in front; frontalia deep black.* Sixth joint of the antennæ rather deeply plumose. *Thorax with six whitish stripes*, less regular than those of *S. albiceps*, the two outer pair connected in front, the inner pair indistinctly intersected. Wings slightly grey; præbrachial vein forming a right angle at the flexure, curved inward near this, and thence almost straight to the tip; discal transverse vein with two distinct curves, parted by much less than its length from the border, and by more than half its length from the flexure of the præbrachial. Alulæ white. *Abdomen tessellated with four rows of whitish spots.*

Common. (E.)

5. **lineata**, Fal. Musc. 40. 5 (1810); Zett. Nigra, capite albido-cinereo, frontalibus atris, thorace albido-cinereo sexvittato, alis cinereis, abdomine maculis albido-cinereis subconfluentibus quadrivittato. Long. 2-3; alar. 4-6 lin.

Black, with whitish-cinereous tomentum. *Frontalia deep black.* Sixth joint of the antennæ thinly and not deeply plumose. *Thorax with six stripes*, less distinct and regular than those of most other species, the two outer pairs connected in front. Wings grey; præbrachial vein forming a slightly obtuse angle at the flexure, very slightly curved inward near this, and thence almost straight to the tip; discal transverse vein with two very indistinct curves, parted from the border by much more than its length, and by much more than half its length from the

flexure of the præbrachial. Alulæ white. Abdomen tessellated with four rows of partly confluent spots. In a fly of this species the cubital and præbrachial veins in one wing are connected near their tips by a transverse vein.

Common. (E.)

6. **hæmorrhoidalis**, Fal. Musc. 39. 2 (1810); Meig.; Mcq.; Zett. Nigra, cano-tomentosa, capite argentato, thorace nigro-quadrivittato, alis subhyalinis, *vena præbrachiali inter flexuram et apicem valde arcuata*, abdomine quadrifariam nigro-tessellato. Long. 4-5; alar. 8-10 lin.

Black, with whitish tomentum. Head silvery-white in front; frontalia deep black. Sixth joint of the antennæ deeply plumose. Thorax with six regular stripes, the two outer pairs connected in front, the inner pair intersected. Wings almost limpid; *præbrachial vein forming a right angle at its flexure, near which it is much curved inward, and thence is almost straight to its tip*; discal transverse vein nearly straight, parted by less than its length from the border, and by a little more than half its length from the flexure of the præbrachial. Alulæ white. Abdomen distinctly tessellated with four rows of spots.

Not common. (E.)

7. **cruentata**, Meig. Zw. v. 28. 23 (1826); Mcq.; Zett. D. S.—*ruficauda*, Zett. I. L. Nigra, capite antice albo, frontalibus atris, thorace cano-sexvittato, alis sublimpidis, *vena præbrachiali inter flexuram et apicem subarcuata*, abdomine quadrifariam nigro-tessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with hoary tomentum. Head white in front; frontalia deep black. Sixth joint of the antennæ rather deeply plumose. Thorax with six stripes, the two outer pairs connected in front, the inner pair indistinctly intersected. *Præbrachial vein forming a hardly obtuse angle at the flexure, slightly curved inward near this, and thence straight to the tip*; discal transverse vein with two slight curves, parted by little less than its length from the border, and by more than half its length from the flexure of the præbrachial. Alulæ white. Abdomen tessellated with four rows of spots.

Not common. (E.)

8. **hæmorrhœa**, Meig. Zw. v. 29. 24 (1826); Mcq.; Zett. Obscure fusco-nigra, cano-tomentosa, capite antice albido, frontalibus atris, thorace sexvittato, alis subcinereis, abdomine maculis nigris quadrivittato. Long. 3; alar. 6 lin.

Brownish-black, with cinereous tomentum. Head whitish in front; frontalia deep black. Sixth joint of the antennæ thinly and rather deeply plumose. Thorax with six stripes, the two outer pairs connected together in front. Wings slightly grey; præbrachial vein forming an obtuse angle at the flexure, very slightly curved inward near this, and thence almost straight to the tip; discal transverse vein with

a distinct inward hinder curve, parted by a little more than half its length from the border, and by much less than half its length from the flexure of the præbrachial. Alulæ whitish. Abdomen tessellated with four rows of rather indistinct spots.

Not common. (E.)

9. **mortuorum**, L. Fn. 1830 (1761); F.; Gmel.; Fal.; Latr.; Meig.; Mcq.; Zett.—*chrysocephala*, D. G. *Nigro-cyanea*, capite luteo aureo-tomentoso, palpis fulvis, *antennis rufis*, *thorace nigro-trivittato*, *abdomine purpureo-cyaneo*. Long. 6; alar. 13 lin.

*Bluish-black*, with hoary tomentum. Head luteous, with gilded tomentum; vertex and hind part black, with white tomentum; proboscis black; palpi subclavate, tawny. *Antennæ red*; third joint black above towards the tip, full thrice the length of the second; sixth black, near twice the length of the third. *Thorax with three broad black stripes*. Wings slightly grey; præbrachial vein forming a right angle at its flexure, near which it is curved inward, and thence continuous straight to its tip; discal transverse vein with two very distinct curves, parted from the border by less than half its length, and by much less from the flexure of the præbrachial. Alulæ white. *Abdomen elongate-oval, purplish-blue*, thickly covered with black down. Legs black.

Not common. (E. S.)

10. **alpina**, Zett. D. Sc. iv. 1304. 26 (1845). *Nigra*, capite luteo antice aurato, palpis fulvis, *antennis luteis*, *thorace cano-quadrivittato*, alis subcinereis, *abdomine cyaneo-viridi*. Long. 4; alar. 9 lin.

Black. *Head luteous*, gilded in front; epistoma prominent; proboscis black; vertex black; palpi tawny. *Antennæ luteous*, reaching the epistoma; third joint black for three-fourths of the length above and at the tip, full thrice the length of the second; fourth and fifth black, distinct; sixth testaceous, black towards the base, plumose to two-thirds of the length. *Thorax with four hoary stripes*. Wings slightly grey; subcostal vein ending at a little beyond one-third of the length of the wing; mediastinal vein ending at a little beyond half the length; radial vein ending at hardly beyond five-sixths of the length; præbrachial vein forming a right angle at the flexure, slightly curved inward near this, and straight from thence to the tip; discal transverse vein with two distinct curves, parted by more than half its length from the border and from the flexure of the præbrachial. Alulæ greyish. *Abdomen bluish-green*.

Rare. (E.)

The following additional species of *Sarcophaga* have been recorded as British:—

1. *S. pumila*, Meig.
2. *S. sinuata*, Meig.
3. *S. vagans*, Meig.

## SUBFAMILY 5. MUSCIDES.

*Musciæ*, Mcq.; Westw. *Muscariæ*, Zett. *Muscidæ* p., Bigot. *Stomoxys* p., Westw.

*Corpus breve, latum, crassum. Caput non vesiculosum. Arista plumosa. Thorax brevis. Alulæ magnæ. Pedes longitudine mediocres.*

*Body short, broad, thick. Head not vesiculose. Arista plumose. Thorax short. Alulæ large. Legs of moderate length.*

The *Muscides* feed, in the larva state, on decaying matter; many of them are viviparous, and several species are excessively abundant.

a. Proboscis thick, soft, obtuse, retractile. 1. MUSCA.

a a. Proboscis slender, porrect, smooth, shining, acuminate. 2. STOMOXYS.

## Genus I. MUSCA.

*Musca*, Meig., et *Mesembrina*, Meig. Zw. iv. *Musca*, etc., Desv.; Mcq.; Westw.; Meig. Zw. vii.; Zett. *Sarcophaga* p., Zett.

*Corpus pubescens, setosum, latum, robustum. Color varius. Frontalia lata. Antennæ decumbentes; articulus tertius linearis, apice rotundatus, secundo duplo triplo aut quadruplo longiore; sextus plumosus. Abdomen subovatum, thorace paullo latius non longius.*

Frontalia broad, thickly striated, with a row of bristles on each side; foveæ of the face very shallow; facialia bristly along more than half the length; facialia of the peristoma bristly; lateralia large. Third joint of the antennæ linear, rounded at the tip, from twice to four times the length of the second; sixth stout at the base, plumose nearly to the tip. Costal vein ending at a little in front of the tip of the wing. Abdomen subovate, a little broader but not longer than the thorax.

a. Præbrachial vein forming a right or hardly acute angle.—*Calliphora*, Desv., etc. Species 1, 2.

a a. Præbrachial vein forming a slightly obtuse angle.

b. Colour bright metallic.—*Lucilia*, Desv., etc. Species 3–5.

b b. Colour blackish-blue.—*Lucilia*, Mcq. Species 6.

b b b. Thorax black. Abdomen green or blue.—*Melinda*, Desv.—*Calliphora* p., Mcq.—*Dasyphora*, Desv.—*Sarcophaga* p., Zett. Species 7, 8.

b b b b. Colour not metallic.

c. Abdomen not pale on each side.

d. Abdomen not tessellated.—*Nitellia*, Desv. Species 9.

d d. Abdomen tessellated.

e. Abdomen not pale beneath.—*Pollenia*, Desv. Species 10.

e e. Abdomen pale beneath.—*Musca*, Meig., etc. Species 11.



- c c. Abdomen pale on each side.  
 d. Wings of moderate length.—*Musca*, Meig., etc. Species 12.  
 d d. Wings long.—*Plaxemyia*, Desv. Species 13.  
 a a a. Præbrachial vein forming a curve.  
 b. Colour bright metallic.—*Pyrellia*, Desv. Species 14–16.  
 b b. Colour bluish-black.—*Morellia*, Desv.—*Curtonevra* p., Mcq.—*Cyrtonevra* p., Zett. Species 17.  
 b b b. Colour not metallic.  
 c. Abdomen tessellated.—*Cyrtonevra* p., Zett.  
 d. Tibiæ ferruginous.—*Anthomyia* p., Wied.—*Muscina*, Desv.—*Curtonevra* p., Mcq. Species 18.  
 d d. Tibiæ black.—*Graphomyia*, Desv.—*Curtonevra* p., Mcq.—*Cyrtonevra* p., Zett. Species 19.  
 c c. Abdomen spotted, not tessellated.—*Curtonevra* p., Mcq.—*Cyrtonevra* p., Zett. Species 20.  
 c c c. Abdomen without marks.—*Mesembrina*, Meig. Species 21.

1. **erythrocephala**, Meig. Zw. v. 62. 2 (1826), vii. 300. 2; Zett. —*vomitioria*, Fal. (var.); Mcq. Nigro-cyanea, albido-tomentosa, *capite subtus rufo nigro-hirto*, antennis rufo variis, thorace nigro-quadrivittato, alis cinereis, abdomine purpureo-cyaneo. Long. 3–5; alar. 8–12 lin.

BLUE-BOTTLE FLY.—Bluish-black, covered with whitish tomentum. *Head with black hairs beneath*; frontalia dull black. *Interantennaria, face, epistoma, mediana, and lateralia red*; disc of the face black; palpi reddish-tawny. Antennæ red at the tip of the second joint and about the base of the third; sixth joint less than twice the length of the third. Thorax with four black stripes, the inner pair double. Wings grey, slightly tinged with brown about the veins near the base; discal transverse vein with two distinct curves, parted from the border and from the flexure of the præbrachial by hardly one-third of its length. Alulæ dark grey. Halteres luteous. Abdomen blue, rarely purplish, with shining white tomentum forming large spots on each side. Legs black.

Common. (E. S. I.)

2. **vomitioria**, L. Fn. 1831 (1761); Schr.; Pz. I Fn. x. 19; Fal.; Meig. —*carnivora*, F. —*mortuorum*, F. —*fulvibarbis*, Mcq. Nigro-cyanea, albido-tomentosa, *capite subtus rufo fulvo-hirto*, facialibus et epistomate rufis, antennis rufo variis, thorace nigro-quadrivittato, alis cinereis, abdomine purpureo-cyaneo. Long. 5; alar. 12 lin.

BLUE-BOTTLE FLY.—Bluish-black, with whitish tomentum. *Head clothed beneath with reddish-tawny hairs*; facialia and epistoma red. Antennæ black; second joint at the tip and third joint towards the base beneath red. Thorax with four black stripes, the inner pair double. Wings grey, slightly tinged with brown near the base. Alulæ dark grey. Halteres luteous. Abdomen purplish-blue, with shining white tomentum on each side. Legs black.

Common. (E. S. I.)

3. **Cæsar**, L. Fn. 1828 (1761); F.; Schr.; Gmel.; Fal.; Latr.; Meig.; Mcq.; Zett. Aureo-viridis aut viridi-cyanea, capite argenteo, frontalibus atris, *palpis fulvis*, alis subhyalinis, pedibus nigris. Long.  $2\frac{1}{2}$ – $4\frac{1}{2}$ ; alar. 6–10.

GREEN-BOTTLE FLY.—Bright bluish-green or golden-green, here and there purplish, partly tinged with white tomentum. Head with silvery-white tomentum; frontalia black; facialia reddish, bristly for one-third of the length; epistoma testaceous, slightly prominent; *palpi tawny*. Antennæ black. Wings subhyaline. Alulæ white. Halteres luteous. Legs black; femora bluish.

Generally distributed. (E. S. I.)

4. **cornicina**, F. S. I. ii. 438. 11 (1781); Gmel.; Fal.; Meig.; Mcq.; Zett. Aureo-viridis aut cyaneo-viridis, capite argenteo, *palpis nigris*, alis sublimpidis, *venæ præbrachialis flexura angulum valde rotundatum subobtusum fingente*, pedibus nigris. Long. 3–4; alar. 7–9 lin.

GREEN-BOTTLE FLY.—Green, or bluish-green, or golden-green. Head with silvery tomentum in front; frontalia deep black; facialia bristly to full one-half of the length; *palpi and antennæ black*. Wings nearly limpid; *præbrachial vein forming a much rounded and slightly obtuse angle at the flexure, slightly curved inward near this, and straight from thence to the tip*. Alulæ white. Halteres tawny. Legs black; femora greenish.

Generally distributed. (E. S. I.)

5. **illustris**, Meig. Zw. v. 54. 7 (1826); Mcq.; Zett. Cyaneo-viridis aut aureo-viridis, capite argenteo, *palpis* antennis pedibusque *nigris*, alis subhyalinis, *venæ præbrachialis flexura angulum obtusum et optime determinatum fingente*. Long. 3–4; alar. 7–9 lin.

Thorax bluish-green, with two purple stripes. Head with silvery tomentum; frontalia black; facialia bristly for less than half the length. Antennæ black. Wings nearly limpid; *præbrachial vein forming an obtuse and sharply defined angle at the flexure, straight from thence to the tip*; discal transverse vein with two very slight curves, parted by half its length from the border, and by more than half from the flexure of the præbrachial. Alulæ white. Abdomen golden-green. Legs black. Var.  $\beta$ . Discal transverse vein parted by more than half its length from the border. Var.  $\gamma$ . Thorax golden-green. Var.  $\delta$ . Discal transverse vein parted by less than half its length from the flexure of the præbrachial. Var.  $\epsilon$ . Abdomen greenish-blue, purple on each side. Var.  $\zeta$ . Abdomen golden, partly cupreous.

Generally distributed. (E. S. I.)

6. **equestris**, Meig. Zw. v. 57. 13 (1826); Mcq. Nigro-cyanea, capite albido-tomentoso, *palpis fulvis*, antennis nigris articulo secundo ferrugineo, alis subcinereis, pedibus nigris. Long.  $4$ – $4\frac{1}{2}$ ; alar. 8–9 lin.

Dark blue. Head black, with whitish tomentum; facialia bristly along more than half the length; epistoma slightly prominent; eyes

bare; palpi tawny. Antennæ black, not reaching the epistoma; second joint ferruginous at the tip; third thrice the length of the second; sixth deeply plumose for more than half the length. Scutellum and base of abdomen generally purple. Wings slightly grey; subcostal vein ending at much beyond one-third of the length; mediastinal vein ending at much beyond half the length; radial vein ending at a little beyond five-sixths of the length; præbrachial vein with a very short branch, and forming an obtuse angle at its flexure, very slightly curved from thence to its tip; discal transverse vein with the fore curve much deeper than the hind one, parted from the flexure of the præbrachial and from the border by a little less than half its length. Alulæ dark grey. Halteres tawny. Legs black.

Not rare. (E.)

7. **vespillo**, F. E. S. iv. 318. 26 (1792); Fal.; Zett.—*sepulcralis*, Meig. Nigra, capite argenteo-albo, facialibus *palpisque fulvis*, thorace cano-quadrivittato, alis cinereis, abdomine viridi. Long. 3–3½; alar. 6–7 lin.

Black, with hoary tomentum. Head with silvery-white tomentum; facialia tawny, bristly along half the length; mediana and epistoma red, the latter not prominent; eyes bare; *palpi tawny*. Antennæ not near reaching the epistoma; third joint hardly twice the length of the second; sixth plumose for more than half the length. Thorax with four hoary stripes. Wings grey; subcostal vein ending very little beyond one-third of the length of the wing; mediastinal vein ending at one-half of the length; radial vein ending at five-sixths of the length; præbrachial vein forming a very obtuse angle at its flexure, almost straight from thence to its tip; discal transverse vein with two rather deep curves, parted from the border and from the flexure of the præbrachial by less than half its length. Alulæ white. Halteres testaceous. Abdomen green. Legs black.

Generally distributed. (E. S. I.)

8. **cærulea**, Meig. Zw. v. 63. 23 (1826); Mcq.; Zett.—*cognata*, Meig. Zw. vi. Nigra, cano-tomentosa, facialibus ferrugineis, *palpis nigris*, thorace quadrivittato, alis cinereis, abdomine cæruleo. Long. 2–3½; alar. 5–7 lin.

Black, tinged with grey tomentum. Facialia ferruginous, bristly except by the epistoma, which is slightly prominent; eyes bare. *Palpi black*. Antennæ nearly reaching the epistoma; third joint four times the length of the second; sixth plumose for two-thirds of the length. Thorax with four stripes. Wings grey; subcostal vein ending much beyond one-third of the length of the wing; mediastinal vein ending much beyond half the length; radial vein ending at beyond five-sixths of the length; præbrachial vein forming an obtuse angle at its flexure, slightly curved inward near this, and straight thence to its tip; discal transverse vein with two slight equal curves, parted from the border

and from the flexure of the præbrachial by rather more or rather less than half its length. Alulæ white. Halteres tawny. Abdomen dark blue. Legs black.

Common. (E. S. I.)

9. **nitens**, Zett. D. S. iv. 1340. 12 (1845).—*vespillo*, Meig.; Mcq. Nigra, capite fulvo-tomentoso, antennis basi rufescentibus, alis subcinereis, abdomine nitente. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black. Head with pale tawny tomentum; facialia bristly for near half the length; epistoma not prominent. Antennæ not near reaching the epistoma; first and second joints reddish; third about twice the length of the second; sixth plumose to two-thirds of the length. Wings slightly grey; subcostal vein ending at a little beyond one-third of the length; mediastinal vein ending at a little beyond half the length; radial vein ending at beyond five-sixths of the length; præbrachial vein forming a rounded and very slightly obtuse angle at the flexure, curved inward near this, and straight thence to the tip; discal transverse vein with two very slight curves, parted by a little more than half its length from the flexure of the præbrachial, and by rather less from the border. Alulæ dingy white. Abdomen shining. *Male*. Eyes contiguous. *Fem*. Eyes remote.

Common. (E. S.)

10. **rudis**, F. E. S. iv. 314. 9 (1792); Fal.; Meig.; Mcq.; Zett. Nigra, capite fulvo-tomentoso, antennis basi rufescentibus, thorace fulvo-hirto, alis subcinereis, abdomine cinereo-tessellato. Long. 3–4; alar. 6–8 lin.

Black, with grey tomentum. Head with pale tawny tomentum; frontalia with hoary tomentum, reddish towards the antennæ; face hoary; facialia reddish, bristly for one-third of the length; epistoma not prominent. Antennæ not near reaching the epistoma; first and second joints reddish; third about twice the length of the second; sixth plumose for three-fourths of the length. Thorax clothed with tawny hairs. Wings slightly grey; subcostal vein ending at hardly beyond one-third of the length of the wing; mediastinal vein ending at hardly beyond half the length; radial vein ending at beyond five-sixths of the length; præbrachial vein forming a rounded and very slightly obtuse angle at its flexure, slightly curved inward near this, and thence almost straight to the tip; discal transverse vein with two distinct curves, parted by full half its length from the flexure of the præbrachial, and by rather more from the border. Alulæ dingy-white. Halteres whitish. Abdomen tessellated with cinereous tomentum. Var. Head clothed beneath with pale tawny hairs. Var. Facialia of the face and of the peristoma reddish.

Frequents houses, passes the winter in a sluggish state, and abounds on windows in the spring before the appearance of *M. domestica*. Generally distributed. (E. S. I.)

11. **domestica**, L. Fn. 1833 (1761); F.; Schr.; Gmel.; Fal.; Meig.; Desv.; Mcq.; Zett. Nigra, cinereo-tomentosa, capite argentato, thorace quadrivittato, alis subcinereis, abdomine subtessellato subtus pallido. Long. 3-3½; alar. 6-7 lin.

HOUSE FLY.—Black, with grey tomentum. Head somewhat silvery in front; frontalia ferruginous in front; facialia bristly for one-third of the length; epistoma not prominent. Antennæ not reaching the epistoma; third joint slender, full four times the length of the second; sixth plumose to three-fourths of the length. Thorax with four black stripes. Wings almost limpid; præbrachial vein forming a rounded obtuse angle at its flexure, nearly straight from thence to the tip; discal transverse vein nearly straight, parted by its length from the flexure of the præbrachial, and by more than half its length from the border. Alulæ whitish. Abdomen slightly tessellated, testaceous beneath.

Everywhere abundant. (E. S. I.)

12. **corvina**, F. S. I. ii. 440. 21 (1781); Gmel.; Fal.; Meig.; Mcq.; Desv.; Zett.—*ludifica*, F.; Pz.! Fn. cv. 13.—*Tau*, Schr.—*nigripes*, Pz.! Fn. lx. 13. Nigra, capite argenteo, thorace cano-tomentoso quadrivittato, alis subcinereis; *Mas*, abdomine testaceo vitta dorsali nigra; *Fem.* abdomine cano nigro-tessellato. Long. 3½; alar. 7 lin.

Black. Head silvery-white; frontalia deep black; facialia beset with bristles; epistoma not prominent. Antennæ almost reaching the epistoma; third joint about four times the length of the second; sixth plumose to the tip. Thorax with hoary tomentum. Wings slightly grey; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at a little beyond half the length; radial vein ending at about seven-eighths of the length; præbrachial vein forming a rounded obtuse angle at its flexure, nearly straight from thence to the tip; discal transverse vein with two distinct curves, parted by full half its length from the border, and by much less than its length from the flexure of the præbrachial. Halteres pale testaceous. *Male*. Thorax with four broad black stripes. Alulæ greyish. Abdomen testaceous; base and dorsal stripe black. *Fem.* Thorax with four slender black stripes. Alulæ white. Abdomen hoary, tessellated with black.

Common. (E.)

13. **vitripennis**, Meig. Zw. v. 73. 38 (1826). Nigra, cano-tomentosa, capite subargenteo, frontalibus antice ferrugineis, thorace quadrivittato, alis sublimpidis, abdomine testaceo vitta dorsali apiceque nigris. Long. 3-3½; alar. 7-8 lin.

Black, with hoary tomentum. Head somewhat silvery; frontalia ferruginous in front; facialia bristly to one-third of the length. Antennæ not reaching the epistoma; third joint about four times the length of the second; sixth plumose to three-fourths of the length. Thorax with four black stripes. Wings nearly limpid; subcostal vein

ending at beyond one-third of the length of the wing; mediastinal vein ending at a little beyond half the length; radial vein ending at about seven-eighths of the length; præbrachial vein forming a rounded angle at the flexure, indistinctly curved inward from thence to the tip; discal transverse vein almost straight, parted by its length from the flexure of the præbrachial, and by nearly half its length from the border. Alulæ whitish. Abdomen dull testaceous; dorsal stripe and tip black.

Common. (E.)

14. **lasiophthalma**, Meig. Zw. vii. 299. 9 (1838); Meq.; Zett. *Æneo-viridis, cyaneo et purpureo varia, oculis hirtis, palpis antennis pedibusque nigris, thorace cano quinevittato, alis subcinereis*. Long. 3-3½; alar. 7-8 lin.

Æneous-green. Facialia beset with bristles; epistoma not prominent; *eyes hairy*; proboscis, palpi, antennæ, and legs black. Antennæ nearly reaching the epistoma; third joint about four times the length of the second; sixth plumose nearly to the tip. Thorax with five broad hoary stripes. Wings slightly grey; subcostal vein ending at a little beyond one-third of the length of the wing; mediastinal vein ending at a little beyond half of the length; radial vein ending at about seven-eighths of the length; præbrachial vein indistinctly undulating between the flexure and the tip; discal transverse vein curved inward near the middle, parted by nearly its length from the flexure of the præbrachial, and by more than half its length from the border. Alulæ greyish. Abdomen greenish-blue. Var.  $\beta$ . Thorax and abdomen green. Var.  $\gamma$ . Thorax æneous. Abdomen golden-green. Var.  $\delta$ . Thorax and abdomen purplish-blue, the former green in front.

Not rare. (E.)

15. **cadaverina**, L. Fn. 1829 (1761); D. G.; Schr.; Ross.; F.; Fal.; Meig.; Meq.; Zett. *Cyaneo-viridis, capite argenteo, oculis nudis, palpis antennis pedibusque nigris, antennarum articulo tertio secundo quadruplo longiore, alis subcinereis, abdomine purpureo*. Long. 3; alar. 6 lin.

Bluish-green. Head silvery-white in front; frontalia, proboscis, palpi, antennæ, and legs black; facialia bristly to one-fourth of the length; epistoma not prominent; *eyes bare*. Antennæ nearly reaching the epistoma; third joint about four times the length of the second; sixth plumose to three-fourths of the length. Wings slightly grey; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at beyond half the length; radial vein ending at beyond five-sixths of the length; discal transverse vein very slightly curved inward in the middle, parted by more than its length from the flexure of the præbrachial, and by much less than its length from the border. Alulæ white. Abdomen purple, partly blue.

Common. (E.)

16. **serena**, Meig. Zw. v. 59. 18 (1826); Mcq.; Zett. Viridis, capite argenteo, oculis nudis, palpis antennis pedibusque nigris, *antennarum articulo tertio secundo triplo longiore*, alis limpidis, abdomine nonnunquam cyaneo. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Bright green. Head with silvery-white tomentum; frontalia black; facialia bristly for one-fourth of the length; epistoma not prominent; proboscis, palpi, antennæ, and legs black. Antennæ not reaching the epistoma; third joint about thrice the length of the second; sixth plumose nearly to the tip. Thorax with three broad rather indistinct hoary stripes. Wings limpid; subcostal vein ending at a little beyond one-third of the length of the wing; mediastinal vein ending at half the length; radial vein ending at seven-eighths of the length; præbrachial vein very indistinctly undulating between its flexure and its tip; discal transverse vein with a distinct inward curve in the middle, and a very indistinct outward curve at each end, parted from the border by much more than half its length, and by much more than its length from the flexure of the præbrachial. Alulæ white. Abdomen golden-green. Halteres luteous. Var.  $\beta$ . Abdomen blue.

Not common. (E.)

17. **hortorum**, Fal. Musc. 52. 33 (1810); Meig.! Zw. v. pl. 43. f. 33; Weid.; Mcq.; Zett.—*importuna*, Desv. Nigra, capite argenteo, thorace cano-trivittato, alis sublimpidis, abdomine nigro-viridi subtesselato. Long.  $2\frac{1}{2}$ – $3\frac{1}{2}$ ; alar. 5–7 lin.

Black, with hoary tomentum. Head with silvery tomentum; frontalia black; facialia bristly along half the length; epistoma not prominent. Antennæ nearly reaching the epistoma; third joint almost reaching the epistoma, full thrice the length of the second; disc of the thorax black, with three hoary stripes. Wings nearly limpid; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at beyond half the length; radial vein ending at about seven-eighths of the length; discal transverse vein very slightly curved inward in the middle, parted by more than its length from the flexure of the præbrachial, and by much more than half its length from the border. Alulæ whitish. Abdomen greenish-black, slightly tessellated.

Very abundant. (E. S. I.)

18. **stabulans**, Fal. Musc. 52. 32 (1810); Meig.; Mcq.; Zett.—*cinerascens*, Wied. Nigra, cano-tomentosa, capite argenteo, thorace quadrivittato, scutello femoribusque apice tibiisque ferrugineis, alis cinereis, abdomine fuscescens tessellato. Long.  $4\frac{1}{2}$ ; alar. 9 lin.

Allied to *Anthomyia*. Black, with cinereous tomentum. Head silvery; frontalia deep black; facialia bristly for one-third of the length; epistoma not prominent. Antennæ not reaching the epistoma; second joint ferruginous at the tip; third about twice the length of the second; sixth plumose to two-thirds of the length. Thorax with four black

stripes. Scutellum ferruginous at the tip. Wings grey; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at beyond half the length; radial vein ending at about seven-eighths of the length; curve of the præbrachial vein near the tip very slight; discal transverse vein with two very slight curves, parted by much more than its length from the flexure of the præbrachial, and by a little less than its length from the border. Alulæ grey. Abdomen brownish, tessellated. Femora towards the tips and tibiæ ferruginous.

Not common. (E.)

19. **maculata**, L. S. N. ed. 12. ii. 990. 70 (1763); D. G.; F.; Gmel.; Pz.; Fal.; Meig.; Mcq.; Zett.—*vulpina*, F. Nigra, albo-tomentosa, alis subcinereis, abdominis segmentis vitta dorsali maculisque quatuor nigris; *Mas*, thorace albido-quadrivittato, scutello apice testaceo, alis ad costam subfuscescentibus, abdomine testaceo; *Fem.* thorace albido-quinquevittato, alis sublimpidis. Long.  $3\frac{1}{2}$ ; alar. 8 lin.

Black, with white tomentum. Frontalia deep black, widening in front; facialia bristly along two-thirds of the length; epistoma slightly prominent; eyes hairy. Antennæ not reaching the epistoma; third joint almost four times the length of the second; sixth plumose to three-fourths of the length. Subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at much beyond half the length; radial vein ending at about seven-eighths of the length; curve of the præbrachial vein very near the border; discal transverse vein much curved inward behind the middle, parted by much less than its length from the flexure of the præbrachial, and by less than half its length from the border. Halteres pale-yellow. Abdomen with an interrupted black dorsal stripe, and with four blackish spots on the hind border of each segment. *Male*. Lateralia red. Eyes not connected. Thorax with four whitish stripes. Scutellum testaceous towards the tip. Wings slightly brownish at the base and along the fore border. Abdomen testaceous. *Fem.* Thorax with five whitish stripes. Wings nearly limpid. Alulæ white.

Common. (E. S. I.)

20. **meditabunda**, F. Sp. I. ii. 444. 46 (1781); Pz.; Fal.; Meig.; Mcq.; Zett. Nigra, cinereo-tomentosa, capite argenteo, thorace quadrivittato, abdomine quadrimaculato; *Mas*, alis fusco-cinereis; *Fem.* alis subcinereis. Long.  $3-3\frac{1}{2}$ ; alar. 6-7 lin.

Allied to *Anthomyia*. Black, with cinereous tomentum. Head silvery; frontalia deep black; facialia bristly to one-fourth of the length; epistoma not prominent; eyes hairy. Antennæ not reaching the epistoma; third joint full twice the length of the second; sixth plumose to three-fourths of the length. Thorax with four black stripes; subcostal vein ending a little beyond one-third of the length of the wing; mediastinal vein ending at a little before half the length; radial vein



ending at about five-sixths of the length; curve of the præbrachial vein very slight and very near the tip; discal transverse vein with two distinct curves, parted by less than its length from the border, and by very much more than its length from the flexure of the præbrachial. Alulæ and halteres dingy testaceous. Second and third segments of the abdomen with two spots on each. *Male*. Eyes not connected. Stripes of the thorax broad. Wings brownish-grey. Abdominal spots large. *Fem*. Eyes remote. Stripes of the thorax narrow. Wings slightly grey. Abdominal spots small.

Not common. (E.)

21. **meridiana**, L. Fn. 1827 (1761); D. G.; Schr.; Gmel.; Pz.; Fal.; Meig.; Mcq.; Zett. Nigra, nitens, capite cano-tomentoso antice aurato, alis subhyalinis basi luteis. Long.  $5\frac{1}{2}$ –6; alar. 11–12 lin.

Black, shining. Head with hoary tomentum; frontalia deep black; facialia bristly along more than half the length; mediana and lateralia gilded. Antennæ not reaching the epistoma; second joint ferruginous at the tip; third tapering from the base to the tip, thrice the length of the second; sixth ferruginous towards the base, plumose to the tip. Wings subhyaline, slightly grey along the veins, bright luteous at the base and along part of the fore border; subcostal vein ending at much beyond one-third of the length of the wing; mediastinal vein ending at about two-thirds of the length; radial vein ending at about seven-eighths of the length; discal transverse vein with two distinct curves, parted by much less than its length from the flexure of the præbrachial, and by hardly half its length from the border. Alulæ slightly luteous. Halteres ferruginous.

Generally distributed. (E. S. I.)

The following additional species of *Musca* have been recorded as British:—

1. *Musca* Cæsarion, *Hoff*.
  2. „ chloris, *Hal*.
  3. „ regina, *Meig*.
  4. „ albipennis, *Meig*.
  5. „ azurea, *Fal*.
  6. „ Lanio, *F*.
  7. „ atramentaria, *Meig*.
  8. „ sepulchralis, *Meig*.
  9. „ pabulorum, *Fal*.
  10. „ cæsia, *Meig*.
  11. „ tempestina, *Fal*.
  12. „ cyanella, *Meig*.
  13. „ versicolor, *Meig*.
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Genus II. **STOMOXYS.**

**STOMOXYS**, Geoff. Ins. ii. 539 (1764); F.; Schr. F. 3; Fal.; Meig.; Mcq.; Zett. *Conops* p., L.; Gmel.; Schr. I. A. *Musca* p., D. G. *Stomoxys* et *Hæmatobia*, Desv.; Mcq.

Corpus mediocre, opacum, pubescens, vix setosum. Oculi oblongi, nudi, in utroque sexu disjuncti. *Proboscis porrecta, gracilis, lævis, nitens, acuminata*, basi geniculata. Thorax sutura transversa. Abdomen segmentis quatuor, non setosum.

Body of middle size, dull, pubescent, with very few bristles. Eyes oblong, bare, parted in both sexes. *Proboscis porrect, slender, smooth, shining, acuminate*, geniculated at the base. Thorax with a transverse suture. Abdomen with four apparent segments, not bristly.

Some of the species of this genus much resemble *M. domestica*, but are especially distinguished from *Musca* by the form of the proboscis, with which they pierce the skin and suck the blood of man and of cattle.

1. **calcitrans**, L. Fn. 1900 (1761); Geoff.; F.; Gmel.; Schr.; Fal.; Meig.; Mcq.—*tessellata*, F. Nigra, cinereo-tomentosa, capite albo, palpis fulvis, thorace nigro-quadrivittato, abdominis segmentis maculis duabus vittaque dorsali suturisque nigris; *Mas*, palpis longis clavatis, alis fuscis; *Fœm.* alis subcinereis, tibiis anticis basi fulvis. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with cinereous tomentum. Head white; facialia without bristles; epistoma slightly prominent; palpi tawny. Antennæ not reaching the epistoma; third joint linear, rounded at the tip, full thrice the length of the second; sixth plumose nearly to the tip. Thorax with four black stripes; costal vein ending at a little behind the tip of the wing; subcostal vein ending at beyond one-third of the length; mediastinal vein ending at beyond half the length; radial vein ending at about seven-eighths of the length; cubital vein very slightly curved; præbrachial vein forming a slight curve at its flexure, joining the costal at some distance from the tip of the cubital; discal transverse vein curved inward in the middle, parted by much less than its length from the flexure of the præbrachial, and by less than half its length from the border. Alulæ grey. Abdomen with two spots on each segment, an interrupted dorsal stripe, and the sutures black. *Male*. Darker than the female. Palpi long, clavate. Wings brown. Abdomen with the spots larger than those of the female, and the dorsal stripe less interrupted. *Fœm.* Wings slightly grey. Fore tibiæ tawny towards the base.

Generally distributed. (E. S. I.)

The following additional species of *Stomoxys* have been recorded as British:—

1. *Stomoxys irritans*, L.
2. „ *stimulans*, Meig.

SUBFAMILY VI. ANTHOMYIDES.

*Anthomyzidæ*, Latr.; Mcq.; Westw. *Mesomydæ*, Desv. *Anthomyzides*, Zett.

*Caput non vesiculosum.* Antennæ facie paullo breviores; articulus tertius elongatus; quartus obsoletus; quintus brevis; sextus basi incrassatus, tertio multo longior. Thorax subellipticus, transverse sulcatus. Alæ mediocres; *vena præbrachialis recta vel subrecta.* *Alulæ mediocres aut parvæ.* Abdomen non elongatum. Pedes longitudine mediocres.

Body hairy, bristly. *Head not vesiculose.* Fovæ of the face very shallow. Antennæ nearly reaching the epistoma; third joint very slightly tapering from the base to the rounded tip, more than twice the length of the second; fourth obsolete; fifth short; sixth short at the base, much longer than the third. Thorax nearly elliptical, with a transverse suture. Wings of moderate size. Costal vein ending where the præbrachial meets it on the hind border at some distance from the tip of the wing; subcostal vein ending at very little beyond one-third of the length of the wing; mediastinal vein ending at about half the length; radial ending at beyond sixth-sevenths of the length; cubital vein joining the costal at very little in front of the tip of the wing; *præbrachial vein straight, or nearly so.* Anal and subanal veins abbreviated. *Alulæ of moderate size, or small.* Abdomen not long. Legs of moderate length.

The *Anthomyides* are nearly allied to the *Muscides*, but may be distinguished by the straight præbrachial vein, and by the smaller alulæ. Their size also is generally smaller, their bodies longer and less compact, and their flight less powerful. Their larvæ mostly live on decaying vegetable substances. The three genera here adopted may be thus distinguished:—

Palpi {	linear or subclavate. Proboscis {	straight . . . . .	1. ANTHOMYIA.
		with geniculate labella . . . . .	2. DRYMEIA.
	capitate . . . . .		3. LISPE.

Genus I. **ANTHOMYIA.**

ANTHOMYIA et *Cænosiæ*, Meig. Zw. v. 81. 210 (1826). *Aricia* et *Anthomyza*, Zett. *Aricia*, *Spilogaster*, *Hydrophoria*, *Hydrotæa*, *Ophyra*, *Limnophora*, *Hylemyia*, *Chortophila*, *Atomogaster*, *Homalomyia* (Bouché), *Anthomyia*, *Pegomyia*, etc., Desv.; Mcq.; Meig. Zw. vii.

Color varius, plerumque obscurus, rarissime submetallicus. Oculi

maris conjuncti, approximati, vel remoti; fœm. disjuncti. *Proboscis* recta. *Palpi filiformes, vel subclavati*. Arista plumosa, pubescens, aut nuda. Alæ sat latæ, vel angustæ; venæ cubitalis, præbrachialis, et discalis transversa structura variæ. Alulæ mediocres vel minutæ.

Body very various in size and breadth, more or less hairy and bristly. Colour various, generally dingy, sometimes pale, very rarely slightly metallic. Eyes of the male united, contiguous, remote; of the female more or less remote. *Proboscis straight*. *Palpi filiform or subclavate*. Arista plumose, pubescent, or bare. Wings rather broad, or narrow. Cubital, præbrachial, and transverse discal veins of various structure. Alulæ of moderate size, or small. Abdomen oval, elliptical, fusiform, obconical, or linear. Femora and tibiæ of the male notched or dentate.

The variations in structure of the alulæ, of the arista, and of the wing-veins above mentioned are characters for grouping the species, which may be thus divided:—

- a. Alulæ of moderate size; lower valve extending much beyond the upper.
  - b. Arista plumose, with long hairs.
    - c. Legs black.
      - d. Abdomen broad, oval.
        - e. Abdomen not distinctly spotted.
          - f. Epistoma not prominent. Species 1–5.
          - f f. Epistoma prominent. Species 6, 7.
        - e e. Abdomen distinctly spotted. Species 8–11.
        - d d. Abdomen narrow, obconical. Species 12–16.
      - c c. Legs partly pale.
        - d. Body more or less pale. Species 17–21.
        - d d. Body black, with pale tomentum.
          - e. Discal transverse vein clouded.
            - f. Abdomen not spotted. Species 22–24.
            - f f. Abdomen distinctly spotted. Species 25, 26.
          - e e. Discal transverse vein not clouded.
            - f. Femora and tibiæ tawny.
              - g. Scutellum tawny. Species 27, 28.
              - g g. Scutellum not tawny.
                - h. Wings greyish, or limpid.
                  - i. Fore femora tawny. Species 29–32.
                  - i i. Fore femora black. Species 33, 34.
                - h h. Wings brown. Species 35.
              - f f. Femora black; tibiæ tawny.
                - g. Transverse veins not clouded.
                  - h. Thorax with four dark stripes. Species 36–40.
                  - h h. Thorax with three dark stripes. Species 41.
                - g g. Transverse veins clouded with brown. Sp. 42, 43.
        - b b. Arista plumose, with short hairs. Species 44.

- ♂♂*. Arista pubescent. Species 45.
- a a*. Alulæ rather small; lower valve extending a little beyond the upper.
  - b*. Arista plumose with long hairs.
  - c*. Legs black. Species 46–48.
  - c c*. Legs black; tibiæ tawny. Species 49–51.
  - ♂♂*. Arista pubescent or bare.
    - c*. Legs black.
      - d*. Thorax and abdomen spotted. Species 52.
      - d d*. Thorax and abdomen not spotted. Species 53–57.
    - c c*. Legs pale. Species 58, 59.
  - a a*. Alulæ small; lower valve not extending beyond the upper.
    - b*. Arista plumose with long hairs. Species 60–64.
    - ♂♂*. Arista plumose with short hairs. Species 65.
      - c*. Legs black.
        - d*. Body bluish-black. Species 66.
        - d d*. Body black.
          - e*. Thorax not striped. Species 67, 68.
          - e e*. Thorax striped. Species 69–73.
      - c c*. Legs black; tibiæ ferruginous. Species 74.
      - c c c*. Femora and tibiæ piceous. Species 75.
      - c c c c*. Femora, tibiæ, and abdomen pale. Species 76–80.

1. **lardaria**, F. S. I. ii. 436. 5 (1781); Gmel.; Fal.; Meig.; Mcq.; Zett.—Har. I. pl. 36. f. 52. *Albido-tomentosa, capite aurato, thorace nigro-quadrivittato*, alis subhyalinis, *vena discali transversa valde obliqua*. Long. 4–5; alar. 8–10 lin.

Black, with whitish tomentum. Head gilded above and in front; interfrontalia distinct, triangular; frontalia of the male black, of the female ferruginous; facialia setigerous along nearly the whole length; mediana pale ferruginous; lateralia large. Eyes hairy. Thorax with four black stripes. Wings subhyaline. Cubital and præbrachial veins diverging from the præbrachial transverse vein to the border. Discal transverse vein undulating, very oblique, parted by a little more than its length from the præbrachial transverse vein, and by less than half its length from the border. Alulæ whitish. Abdomen subovate, tessellated, a little broader but not longer than the thorax.

Generally distributed. (E. S. I.)

2. **albolineata**, Fal. Msc. 54. 38 (1810); Meig.; Mcq.; Zett. *Albido-tomentosa, capite albo, thorace nigro-bivittato*, alis hyalinis, abdome tessellato. Long.  $2\frac{1}{2}$ – $3\frac{1}{2}$ ; alar. 5–7 lin.

Black, with whitish tomentum. Head white; facialia setigerous along most of the length. Eyes hairy. Thorax with two broad black stripes. Wings hyaline; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, very slightly curved, parted by a little less than its length from

the *præbrachial transverse vein*, and by more than half its length from the border. Alulæ white. Abdomen oval, *tessellated*, a little broader but not longer than the thorax.

Not rare. (E.)

3. **præterita**, n. *Canescente-tomentosa*, thorace nigro-quadrivittato, alis cinereis, abdomine subtessellato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with grey tomentum. Head hoary. Eyes bare. Thorax with four slender blackish stripes. Wings grey; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, almost straight, parted by a little more than its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ whitish, with testaceous borders. Abdomen oval, slightly tessellated, a little broader but not longer than the thorax.

Not common. (E.)

4. **interlatens**, n. *Cinereo-tomentosa*, thorace fusco-quadrivittato, alis subcinereis, venis transversis non nebulosis, abdomine longiovato. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with cinereous tomentum. Head whitish. Thorax with four very slender brown stripes. Wings greyish; transverse veins not clouded with brown; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, undulating, parted by a little more than its length from the præbrachial transverse vein, and by very little less than its length from the border. Alulæ whitish. Abdomen elongate-oval, as broad and as long as the thorax.

Not common. (E.)

5. **serva**, Meig. Zw. v. 86. 6 (1826); Mcq.; Zett. *Cinereo-tomentosa*, thorace nigro-quadrivittato, alis cinereis, venis transversis fusco-nebulosis, abdomine ovato tessellato. Long.  $3-3\frac{1}{2}$ ; alar. 6-7 lin.

Black, with cinereous tomentum. Head white on each side in front. Eyes bare. Thorax with four slender black stripes. Wings grey; transverse veins clouded with brown; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein undulating, slightly oblique, parted by a little more than its length from the præbrachial transverse vein and by hardly less than its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen oval, tessellated, a little broader, but not longer than the thorax.

Common. (E.)

6. **indecisa**, n. *Canescente-tomentosa*, thorace nigro-quadrivittato, alis subcinereis basi subluridis, vena præbrachiali transversa non nebulosa, abdomine cinereo-tomentoso, vitta dorsali basali nigra. Long.  $3\frac{1}{2}-4$ ; alar. 7-8 lin.

Black, with grey tomentum. Head whitish. Thorax with four black stripes. Wings slightly grey, with an indistinct lurid tinge at the base; cubital and præbrachial veins slightly diverging to the border from the *præbrachial transverse vein which is not clouded*; cubital vein very slightly undulating; discal transverse vein oblique, undulating, parted by much more than its length from the præbrachial transverse vein, and by much more than half its length from the border. Alulæ whitish, with luteous borders. Abdomen oval, with cinereous tomentum, and with a black dorsal stripe towards the base, as broad as the thorax but not longer.

Common. (E.)

7. **incana**, Wied. Z. M. I. i. 81. 31 (1816); Meig.; Mcq.; Zett.—*nemorum*, Fal. Canescente-tomentosa, thorace nigro-quadrivittato, *alis cinereis basi et apud venas luridis*, abdomine cano-tomentosa. Long. 3–3½; alar. 6–7 lin.

Black, with grey tomentum. Thorax with four black stripes. *Wings grey, lurid at the base and more slightly so along the borders of the veins*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by much more than half its length from the border. Alulæ whitish, with lurid borders. Abdomen oval, with hoary tomentum, as broad as the thorax, but not longer.

Common. (E.)

8. **fixa**, n. Canescente-tomentosa, thorace nigro-quadrivittato, *alis subcinereis, venis cubitali et præbrachiali divergentibus, discali transversa non nebulosa ab præbrachiali transversa ejus longitudine paullo remotiore*, abdomine cinereo nigro-quadrinaculato. Long. 3; alar. 6 lin.

Black, with grey tomentum. Head whitish. Thorax with four black stripes. Wings greyish; *cubital and præbrachial veins slightly diverging from the clouded præbrachial transverse vein to the border*; discal transverse vein oblique, slightly undulating, *not clouded, parted by a little more than its length from the præbrachial transverse vein*, and by less than its length from the border. Alulæ whitish, with testaceous borders. Abdomen cinereous, elongate-oval, as broad and as long as the thorax; second and third segments with two black spots on each.

Not rare. (E.)

9. **decedens**, n. Canescente-tomentosa, thorace nigro-quadrivittato, *alis cinereis, venis cubitali et præbrachiali fere parallelis, discali transversa non nebulosa ab præbrachiali transversa ejus longitudine paullo remotiore*, abdomine nigro-quadrinaculato. Long. 3; alar. 6 lin.

Black, with grey tomentum. Head white. Thorax with four black stripes. Wings grey; *cubital and præbrachial veins nearly parallel*

from the discal transverse vein to the border; discal transverse vein oblique, slightly undulating, not clouded, parted by a little more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen fusiform, a little longer than the thorax; second and third segments with two black spots on each.

Not common. (E.)

10. **detracta**, n. Cano-tomentosa, thorace nigro-quadrivittato, alis subcinereis, vena discali transversa non nebulosa ab præbrachiali transversa ejus longitudine multo remotiore, abdomine maculis quatuor indistinctis nigricantibus. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with hoary tomentum. Head silvery-white; lateralia dull testaceous. Thorax with four black stripes. Wings greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, very slightly undulating, not clouded, parted by much more than its length from the præbrachial transverse vein, and by very little more than its length from the border. Alulæ whitish. Abdomen oval, a little broader but not longer than the thorax, with two indistinct blackish spots on each segment.

Not common. (E.)

11. **lucorum**, Fal. Msc. 55. 40 (1810); Meig.; Mcq.; Zett. Canescente-tomentosa, thorace nigro-quadrivittato, alis cinereis basi et apud venas fusciscentibus, abdomine nigro-quadrimalaculato. Long. 3; alar. 6 lin.

Black, with grey tomentum. Head white. Thorax with four black stripes. Wings grey, brownish at the base and along the borders of the veins; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by about its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ greyish, with testaceous borders. Abdomen elongate, oval, as broad and as long as the thorax; second and third segments with two black spots on each.

Common. (E.)

12. **debilis**, n. Canescente-tomentosa, thorace vittis duabus indistinctis nigris, alis subcinereis, abdomine non maculato. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with grey tomentum. Thorax with two indistinct black stripes. Wings slightly greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, nearly straight, parted by very little more than its length from the præbrachial transverse vein, and by much more than half its length from the border. Alulæ slightly greyish,



with pale testaceous borders. *Abdomen* oval, shining, *not spotted*, a little broader but not longer than the thorax.

Not common. (E.)

13. **fumosa**, Meig. Zw. v. 109. 45 (1826). *Atra, hirsutissima, alis nigro-fuscis apice et margine postico cinereis, abdomine nigro-æneo immaculato*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Deep black, *very hairy*. Head greyish in front. *Wings dark brown; hind borders and tips grey*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, nearly parallel from thence to the border; cubital vein slightly curved; discal transverse vein hardly oblique, very slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. *Abdomen æneous-black*, obconical, very little longer than the thorax.

Not rare. (E.)

14. **vespertina**, Fal. Msc. 58. 49 (1810); Meig.; Zett. *Mas, Nigra, subpilosa, nitens, alis fuscis, apice margineque postico cinereis, abdomine nigro-æneo immaculato, vitta dorsali nigra*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

*Male*. Black, shining, *slightly hairy*. Head whitish in front and beneath. *Wings brown, grey at the tips and along the hind border*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, hardly diverging from thence to the border; discal transverse vein oblique, slightly curved inward, parted by a little more than half its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish. *Abdomen* long-oval, *æneous-black*, with a black dorsal stripe, *not spotted*, a little longer than the thorax.

Common. (E.)

15. **obscurata**, Meig. Zw. v. 89. 12 (1826); Zett.—var. *Sahlbergi*, Zett. *Nigro-cinereo-tomentosa, thorace vittis tribus vix conspicuis nigris, alis obscure cinereis basi et apud venas fuscis, abdomine nigro-æneo maculis quatuor nigris*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with dark grey tomentum, very hairy. Eyes hairy; sixth joint of the antennæ with moderately long hairs. Thorax with three indistinct black stripes. *Wings dark grey, brown at the base and along the borders of the veins*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by hardly more than its length from the præbrachial transverse vein, and by rather less than its length from the border. Alulæ whitish, with pale testaceous borders. *Abdomen* elongate-oval, *indistinctly æneous-black*, a little longer than the thorax; *second and third segments with two black spots on each*.

Not rare. (E.)

16. **dispar**, Fal. Msc. 58. 48 (1810); Meig.; Mcq.; Zett. Ca-

nescente-tomentosa, thorace nigro-quadrivittato, *alis cinereis, maris basi et antice vix fusciscentibus, abdomine cinereo nigro-quadrinaculato*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with grey tomentum. Head hoary. Thorax with four black stripes. *Wings grey, of the male very slightly brownish at the base and in front*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by hardly more than its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ grey, with testaceous borders. *Abdomen long-obconical, with cinereous tomentum, as long as the thorax; second and third segments with two black spots on each.*

Common. (E.)

17. **pallida**, F. E. S. iv. 320. 33 (1792); Gmel.; Fal.; Meig.; Mcq.; Zett.—*testacea*, D. G. *Testacea*, antennis articulo tertio apice fusco, *alis subcinereis, tarsis nigris*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

*Testaceous*. Head whitish in front; third joint of the antennæ brownish at the tip. Wings slightly grey; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, very slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen subelliptical, as long and as broad as the thorax. Tarsi black. *Male*. Discal transverse vein parted by about its length or a little less from the præbrachial transverse vein, and by a little less than its length from the border. *Var.* Thorax with three short brown stripes. Wings slightly testaceous at the base and in front.

Not rare. (E.)

18. **Populi**, Meig. Zw. v. 115. 55 (1826); Mcq.; Zett.—*pallida* var., Fal. *Nigra, canescente-tomentosa*, palpis testaceis, thorace nigro-quadrivittato, humeris scutello abdomine pedibusque fulvis, *alis subcinereis basi subluridis, venis cubitali et præbrachiali apices versus divergentibus, vena præbrachiali transversa non nebulosa, tarsis nigris*. Long.  $3$ – $3\frac{1}{2}$ ; alar. 6–7 lin.

*Black, with grey tomentum*. Head white. Palpi testaceous. Thorax with four black stripes. Humeri and scutellum tawny. Wings slightly grey, pale lurid at the base; *cubital and præbrachial veins slightly diverging from the unclouded præbrachial transverse vein to the border; discal transverse vein clouded with pale brown, a little oblique, slightly undulating, parted by almost its length from the præbrachial transverse vein*, and by little more than half its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen tawny, subelliptical, as long and as broad as the thorax. Legs tawny; tarsi black.

Common. (E.)

19. **testacea**, F. S. I. ii. 440. 22 (1781); Gmel.; Pz. ! Fn. lx. 14; Meig.—*scutellaris*? Fal.; Zett. *Nigra*, *cano-tomentosa*, thorace nigro-quadrivittato, scutello abdomine pedibusque fulvis, alis subcinereis, *venis cubitali et præbrachiali apices versus convergentibus*, *vena præbrachiali transversa non nebulosa*, tarsis nigris. Long. 3; alar. 6 lin.

*Black, with hoary tomentum.* Thorax with four slender blackish stripes; scutellum tawny. Wings slightly greyish; *cubital and præbrachial veins slightly diverging from the unclouded præbrachial transverse vein to half the distance between the discal transverse vein and the border, very slightly converging from thence to the border; discal transverse vein slightly oblique, slightly curved inward, parted by more than its length from the præbrachial transverse vein*, and by about half its length from the border. Alulæ greyish, with testaceous borders. Abdomen tawny, elongate-oval, a little longer than the thorax. Legs tawny; tarsi black.

Not common. (E.)

20. **abdominalis**, Stæg. MSS.; Zett. D. S. v. 1744. 126 (1846). *Nigra*, *cano-tomentosa*, antennis basi *scutelli apice abdomine* pedibusque *fulvis*, *thorace fusco-quadrivittato*, alis subcinereis, *venis transversis fusco-nebulosis*, tarsis nigris. Long. 3; alar. 6 lin.

*Black, with hoary tomentum.* Head white in front; first and second joints of the antennæ tawny; third tawny at the base. *Thorax with four brownish stripes; scutellum tawny at the tip. Wings greyish; transverse veins clouded with brown; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein almost upright, hardly undulating, parted by its length from the præbrachial transverse vein, and by less than its length from the border.* Alulæ white. *Abdomen elliptical, tawny*, not longer than the thorax; second and third segments with two black spots on each. Legs tawny; tarsi black.

Not common. (E.)

21. **uliginosa**, Fal. Msc. 81. 100 (1810); Meig.; Mcq.; Zett. *Nigra*, *cano-tomentosa*, antennis basi testaceis, *thorace vittis quatuor postice conjunctis fuscis*, *scutello fusco-bimaculato*, alis sublimpidis, *venis transversis fusco-nebulosis*, *abdomine testaceo vitta interrupta maculisque fuscis*, pedibus fulvis, tarsis nigris. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

*Black, with hoary tomentum.* Head white. Eyes not meeting above in the male; first and second joints of the antennæ testaceous. *Thorax with four brown stripes, which are partly confluent behind; scutellum with two large triangular brown spots. Wings nearly limpid; transverse veins, and junction of the cubital and præbrachial veins clouded with brown; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, slightly undulating, parted by less than its length*

from the præbrachial transverse vein, and from the border. Alulæ whitish. *Abdomen pale testaceous*, obconical, a little longer than the thorax, *with a slender interrupted brown stripe; first segment with a brown spot on each side; second, third, and fourth segments with four brown spots on each.* Legs tawny; tarsi black.

Not common. (E. S.)

22. **vagans**, Fal. Msc. 78. 93 (1810); Meig.; Mcq.; Zett. Cinereo-cano-tomentosa, *scutello concolore*, thorace nigro-quadrivittato, alis subcinereis, venis infuscatis, abdomine subtessellato, pedibus fulvis, tarsis nigris. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with cinereous hoary tomentum. Head white. Thorax with four black stripes; *scutellum not tawny*. Wing greyish; transverse veins clouded with brown; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, undulating, parted by a little more than its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ white. Abdomen oval, slightly tessellated, very little broader or longer than the thorax. Legs tawny; tarsi black; fore femora black, with tawny tips.

Not common. (E.)

23. **errans**, Meig. Zw. v. 112. 50 (1826); Mcq.; Zett.—*erratica* var., Fal. Cano-(*Mas*) vel cinereo-(*Fœm.*) tomentosa, thorace nigro-quadrivittato, *scutello apice fulvo*, alis cinereis, *vena præbrachiali transversa non nebulosa*, abdomine subtessellato, pedibus fulvis, tarsis et maris femoribus anticis nigris. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black. Head white. Thorax with four black stripes; *scutellum tawny towards the tip*. Wings grey; cubital and præbrachial veins diverging from the *unclouded præbrachial transverse vein* to the border; discal transverse vein oblique, undulating, clouded with brown, parted by more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ grey, with testaceous borders. Abdomen oval, as long and as broad as the thorax, slightly tessellated. Legs tawny; tarsi black. *Male*, with hoary tomentum; fore femora black with tawny tips. *Fem.*, with cinereous tomentum.

Not rare. (E.)

24. **signata**, Meig. Zw. v. 113. 52 (1826); Mcq.; Zett. Cinereo-tomentosa, antennis basi pedibusque fulvis, thorace fusco-quadrivittato, *scutello apice testaceo*, alis subcinereis, *venis transversis fusco-nebulosis*, abdomine subtessellato, tarsis nigris. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head hoary beneath. First and second joints of the antennæ tawny. Thorax with four brown stripes; *scutellum testaceous towards the tip*. Wings greyish; *transverse veins clouded with brown*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse

vein undulating, slightly oblique, parted by about its length from the præbrachial transverse vein, and by little more than half its length from the border. Alulæ whitish. Abdomen oval, slightly tessellated, a little broader but not longer than the thorax. Legs tawny; tarsi black.

Not rare. (E.)

**25. effecta**, n. Cinereo-tomentosa, thorace nigro-quadrivittato, alis cinereis, vena præbrachiali transversa infusca, *abdomine ovato nigro-sexmaculato*, pedibus fulvis, femoribus anticis tarsisque nigris. Long. 3; alar. 6 lin.

*Male*. Black, with cinereous tomentum. Head white. Thorax with four black stripes. Wings grey; cubital and præbrachial veins slightly diverging from the clouded præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by a little less than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish, with pale testaceous borders. *Abdomen oval*, as long and as broad as the thorax; *first, second, and third segments with two black spots on each*. Legs tawny; tarsi black; fore femora black, with tawny tips.

Not common. (E.)

**26. depuncta**, Fal. Msc. 80. 98 (1810); Meig.; Zett. Cinereo-tomentosa, thorace nigro-quadrivittato, alis cinereis, vena præbrachiali transversa infusca, *abdomine longi-ovato nigro-quadrinaculato*, pedibus fulvis, femoribus anticis tarsisque nigris. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head whitish. Thorax with four black stripes. Wings grey; transverse veins slightly clouded with brown; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, undulating, parted by a little more than its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ white. *Abdomen elongate oval*, slightly tessellated, as long and as broad as the thorax; *second and third segments with two black spots on each*. Legs tawny; tarsi and fore femora black.

Not rare. (E.)

**27. erratica**, Fal. Msc. 77. 92 (1810); Meig.; Mcq.; Zett. Cano-tomentosa, antennis basi scutello pedibusque fulvis, thorace nigro-quadrivittato, *alis subcinereis, abdomine tessellato*, tarsis nigris. Long. 5; alar. 11 lin.

Black, with hoary tomentum. Head white in front and beneath; facialia and epistoma testaceous. First and second joints and base of the third joint of the antennæ tawny. Thorax with four black stripes; scutellum tawny. *Wings greyish*; cubital and præbrachial veins diverging from the præbrachial transverse vein to near the border, where they slightly converge; discal transverse vein oblique, very undulating, parted by more than its length from the præbrachial transverse vein,

and by much less than its length from the border. Alulæ whitish. *Abdomen* oval, *tessellated*, shorter and broader than the thorax. Legs tawny; tarsi black.

Not common. (E. I.)

28. **pagana**, F. E. S. iv. 326. 61 (1792); Fal.; Meig.; Mcq.; Zett. Cinereo-tomentosa, thorace nigro-quadrivittato, scutello pedibusque fulvis, *alis subcinereis basi fulvis, abdominis vitta dorsali tarsisque nigris*. Long. 3-4; alar. 6-8 lin.

Black, with cinereous tomentum. Head white in front. Thorax with four blackish stripes. Scutellum tawny. *Wings greyish, tawny at the base*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, very slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish, with testaceous borders. *Abdomen* oval, *with a very slender black dorsal stripe*, as long and as broad as the thorax. Legs tawny; tarsi black.

Common. (E. S. I.)

29. **urbana**, Meig. Zw. v. 118. 60 (1826); Mcq.; Zett.—*Angelicæ* var.  $\beta$  *rustica*, Fal. Cano-tomentosa, thorace nigro-quadrivittato, *alis subcinereis, abdomine subtessellato*, pedibus fulvis, tarsis nigris. Long.  $3\frac{1}{2}$ -4; alar. 7-8 lin.

Black, with hoary tomentum. Head white; frontalia deep black. Thorax with four black stripes. *Wings* greyish, slightly testaceous at the base; cubital and præbrachial veins slightly diverging from the præbrachial vein to the border; discal transverse vein oblique, very slightly curved inward, parted by more than its length from the præbrachial transverse vein, and by much more than half its length from the border. Alulæ whitish, with testaceous borders. *Abdomen* oval, with cinereous tomentum, *slightly tessellated*, a little shorter and broader than the thorax. Legs tawny; tarsi black.

Common. (E.)

30. **Angelicæ**, Scop. E. C. 884 (1763); Fal.; Meig.; Ahr.! Fn. 10. pl. 25; Zett.—*deceptor*a, Schr.; Gmel. Cervino-tomentosa, thorace nigro-quadrivittato, *alis subcinereis basi subtestaceis, abdomine vitta dorsali nigra non tessellato*, pedibus fulvis, tarsis nigris. Long.  $3\frac{1}{2}$ -4; alar. 7-8 lin.

Black, with fawn-coloured tomentum. Head white. Thorax with four black stripes. *Wings* greyish, *slightly testaceous at the base*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by much less than its length from the border. Alulæ greyish, with testaceous borders. *Abdomen* oval, *with a black dorsal stripe, not tessellated*, a little broader but not longer than the thorax. Legs tawny;

tarsi black. *Male*. Discal transverse vein more undulating and nearer to the præbrachial transverse vein than that of the female.

Common. (E. S. I.)

31. **defecta**, n. Cinereo-tomentosa, thorace fusco-quadrivittato, *alis limpidis, abdomine obconico vitta dorsali nigra non tessellato*, pedibus fulvis, tarsis nigris. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head white. Epistoma slightly prominent. Thorax with four brown stripes, the inner pair very slender. *Wings limpid*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, deeply undulating, parted by a little more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. *Abdomen* obconical, with tawny cinereous tomentum, and *with a slender black dorsal stripe, not tessellated*, a little longer and narrower than the thorax. Legs tawny; tarsi black.

Not common. (E.)

32. **impuncta**, Fal. Msc. 79. 96 (1810); Meig.; Mcq.; Zett. Cervino-tomentosa, antennis basi rufis, thorace fusco-quadrivittato, *alis subcinereis, abdomine non tessellato nec vittato*, pedibus fulvis, tarsis nigris. Long. 3-3½; alar. 6-7 lin.

Black, with fawn-coloured tomentum. Head white in front. First and second joints of the antennæ red. Thorax with four brown stripes. Wings greyish; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly curved inward, parted by a little more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ whitish. *Abdomen* oval, *not tessellated nor striped*, not broader and hardly longer the thorax. Legs tawny; tarsi black.

Common. (E. S. I.)

33. **extrema**, n. Cinereo-tomentosa, thorace nigro-quadrivittato, *alis cinereis basi et antice subfuscis*, abdomine nigro-quadrinaculato, pedibus fulvis, femoribus posterioribus basi anticis totis tarsisque nigris. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head white. Thorax with four black stripes. *Wings grey, slightly brownish at the base and in front*; cubital and præbrachial veins very slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, undulating, parted by about its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ grey, with testaceous borders. *Abdomen* oval, hardly longer than the thorax; second and third segments with two black spots on each. Legs tawny; femora and tarsi black; posterior femora more or less tawny towards the tips.

Not common. (E.)

34. **tetrastigma**, Meig. Zw. v. 120. 66 (1826). *Cano-tomentosa*, thorace nigro-quadrivittato, *alis cinereis, venis transversis infuscatis, abdomine longi-obconico cinereo-tomentoso* nigro-quadrinaculato, pedibus fulvis, femoribus anticis et tarsis nigris. Long.  $3\frac{1}{2}$ –4; alar. 7–8 lin.

Black, with hoary tomentum. Head white. Thorax with four blackish stripes. *Wings grey; transverse veins clouded with brown*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, a little curved inward, parted by hardly its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ white. *Abdomen long-obconical, with cinereous tomentum*, a little longer and narrower than the thorax; second and third segments with two black spots on each. Legs tawny; tarsi and fore femora black.

Not common. (E.)

35. **transiens**, n. Obscure tomentosa, capite cano, *alis fuscis*, abdomine nitente, *pedibus obscure fulvis*, tarsis nigris. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with dark grey tomentum. Head hoary. *Wings dark brown*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, nearly straight, parted by nearly its length from the præbrachial transverse vein, and by a little more than half its length from the border. Alulæ grey. Abdomen shining, nearly elliptical, a little longer but not broader than the thorax. *Legs dark tawny*, slender, with very few bristles; tarsi black.

Not common. (E.)

36. **quadrum**, F. S. A. 297. 67 (1805); Meig.; Mcq.; Zett.—*subpuncta*, Fal. — *dispar*, Desv. Cinereo-tomentosa, thorace nigro-quadrivittato, *alis subcinereis, abdomine ovato* nigro-quadrinaculato, femoribus apice tibiisque rufis. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with pale cinereous tomentum. Head whitish. Thorax with four blackish stripes. *Wings greyish*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, very slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ white. *Abdomen oval*, as long and as broad as the thorax; second and third segments with two black spots on each. Tibiæ and tips of the femora red; posterior femora red for one-fourth of the length from the tips.

Common. (E. S. I.)

37. **impulsa**, n. Pallide cinereo-tomentosa, thorace nigro-quadrivittato, *alis subcinereis, venis transversis sat approximatis, abdomine longi-ovato* nigro-quadrinaculato, femoribus apice tibiisque rufis. Long. 3; alar. 6 lin.

Black, with pale cinereous tomentum. Head whitish. Thorax with



four very slender blackish stripes. Wings greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; *discal transverse vein* slightly oblique, very slightly undulating, *parted by much less than its length from the præbrachial transverse vein, and by hardly less than its length from the border.* Alulæ white. *Abdomen elongate-oval*, a little longer than the thorax; second and third segments with two black spots on each. Posterior tibiæ and tips of posterior femora red.

Not rare. (E.)

38. **repulsa**, n. Pallide cinereo-tomentosa, thorace nigro-quadrivittato; alis subcinereis, *venis transversis remotis, abdomine longi-ovato* vitta interrupta dorsali maculisque quatuor nigris, femoribus apice tibiisque rufis. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with pale cinereous tomentum. Head whitish. Thorax with four blackish stripes. Wings greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; *discal transverse vein* very slightly oblique, almost straight, *parted by nearly twice its length from the præbrachial transverse vein, and by less than its length from the border.* Alulæ white. *Abdomen elongate-oval*, a little longer than the thorax, with an interrupted black dorsal stripe; second and third segments with two black spots on each. Tibiæ and femora towards the tips red.

Not rare. (E.)

39. **depulsa**, n. Cinereo-tomentosa, thorace nigro-quadrivittato, alis subcinereis, *abdomine obconico* nigro-quadrिमaculato, femoribus apice tibiisque rufis. Long. 3; alar. 6 lin.

Black, with grey tomentum. Head white. Lateralial ferruginous. *Thorax with four black stripes.* Wings greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; *discal transverse vein* oblique, undulating, *parted by a little less than its length from the præbrachial transverse vein, and by about its length from the border.* Alulæ white. *Abdomen obconical*, very little longer than the thorax; third and fourth segments with two black spots on each. Posterior tibiæ and tips of posterior femora red.

Not common. (E.)

40. **supera**, n. Cinereo-tomentosa, thorace fusco-quadrivittato, alis subcinereis, *abdomine obconico* nigro-quadrिमaculato, femoribus apice tibiisque fulvis. Long. 4; alar. 8 lin.

Black, with cinereous tomentum. Head white beneath. *Thorax with four brown stripes*, the outer pair much interrupted. Wings greyish, with a slight testaceous tinge in front; cubital and præbrachial veins diverging from the præbrachial transverse vein to the border; *discal transverse vein* slightly oblique, more or less undulating, *parted by a little more than its length from the præbrachial transverse vein, and by less than its length from the border.* Alulæ white. *Abdomen obco-*

*nical*, a little longer than the thorax; second and third segments with two black spots on each. Legs black; tibiæ and tips of femora tawny. *Male*. Head white above; eyes approximate, but not connected.

Not common. (E.)

41. **tigrina**, F. S. I. 444. 42 (1781); Zett. *Cano-tomentosa*, *thorace fusco-trivittato*, alis subcinereis, abdomine longi-ovato nigro-sex-maculato, femoribus apice tibiisque fulvis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with hoary tomentum. Head white in front and beneath; proboscis long; mouth shining, pointed. *Thorax with three slender brownish stripes*. Wings slightly greyish; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, hardly diverging from thence to the border; discal transverse vein slightly oblique, straight, parted by twice its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ white. Abdomen elongate-oval, a little longer than the thorax, with two black spots on each segment from the second to the fourth. Tibiæ and tips of femora tawny.

Generally distributed. (E. S. I.)

42. **anceps**? Zett. D. S. iv. 1663. 28 (1845).—*quadrum*? Fal.—*meditata*, var.  $\beta$ ? Fal.—*subpuncta*, var.  $\beta$  *confinis*? Fal. *Cinereo-tomentosa*, *thorace fusco-quadrivittato*, alis subcinereis, abdomine nigro-quadrinaculato, tibiis rufescentibus. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. *Thorax with four brown stripes*. Wings greyish; cubital and præbrachial veins very slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, hardly undulating, parted by more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish. Abdomen elliptical, a little longer than the thorax; second and third segments with two black spots on each. Tibiæ reddish.

Not common. (E.)

43. **infixa**, n. *Canescente-tomentosa*, *thorace nigro-quadrivittato*, alis subcinereis, abdomine cinereo-tomentoso nigro-quadrinaculato, tibiis posterioribus ferrugineis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with grey tomentum. Head white. *Thorax with four slender black stripes*. Wings greyish; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, slightly undulating, parted by about its length from the præbrachial transverse vein, and by hardly less than its length from the border. Alulæ greyish. Abdomen long-obconical, with cinereous tomentum, not longer than the thorax; second and third segments with two black spots on each. Posterior tibiæ ferruginous.

Not common. (E.)

44. **collina**, n. *Fusco-cinereo-tomentosa*, *thorace nigro-quadrivittato*,

tato, alis cinereis maris obscurioribus, abdomine nigro-quadrinaculato, pedibus fulvis, tarsis nigris. Long.  $2\frac{1}{2}$ -3; alar. 5-6 lin.

Black, with brownish-cinereous tomentum. Head white in front. Thorax with four blackish stripes, the outer pair much interrupted. Wings grey; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein nearly upright, hardly undulating. Alulæ greyish, with testaceous borders. Abdomen a little longer than the thorax; second and third segments with two black spots on each. Legs tawny; tarsi black. *Male*. Body, wings, alulæ, and legs darker than those of the female; discal transverse vein parted by about its length from the præbrachial transverse vein, and by less than its length from the border. *Fem*. Discal transverse vein parted by much more than its length from the præbrachial transverse vein, and by much less than its length from the border.

Common in summer on the hills by the upper part of Wharfedale. (E.)

45. **cunctans**, Meig. Zw. v. 133. 89 (1826). Atræ, obscure cinereo-tomentosa, thorace nigro-quadrivittato, abdomine ovato, vitta interrupta dorsali nigra; *Mas*, alis fuscis, margine postico cinereo; *Fæm*. alis limpidis. Long.  $2\frac{1}{2}$ -3; alar. 5-6 lin.

Deep black, with dark grey tomentum. Head silvery-white. Sixth joint of the antennæ pubescent. Thorax with four black stripes. Cubital and præbrachial veins diverging from the præbrachial transverse vein until some distance beyond the discal transverse vein, whence they slightly converge to the border; discal transverse vein oblique, slightly undulating, parted by about its length from the præbrachial transverse vein, and by hardly half its length from the border. Alulæ whitish. Abdomen oval, as long and as broad as the thorax, with an interrupted black dorsal stripe. *Male*. Wings brown, greyish along the hind border. Fore femora with a tooth beneath towards the tips. Fore tibiæ notched beneath towards the base. *Fem*. Wings limpid.

Common. (E.)

46. **subsecuta**, n. Cinereo-tomentosa, alis cinereis basi fulvis; *Mas*, vena discali transversa recta, thorace nigro-quadrivittato, abdomine ovato subtessellato vitta dorsali nigra; *Fæm*. frontalibus piceis, thorace fusco-quadrivittato, abdomine fusiformi. Long.  $3-3\frac{1}{2}$ ; alar. 6-7 lin.

Black. Wings grey, tawny at the base; cubital and præbrachial veins very slightly diverging from the præbrachial transverse vein to half the length between the discal transverse vein and the border, almost parallel from thence to the border. *Male* with dark grey tomentum. Head hoary. Thorax with four indistinct black stripes. Discal transverse vein oblique, straight, parted by a little more than its length from the præbrachial transverse vein, and by hardly half its length from the border. Alulæ grey, with testaceous borders. Abdomen oval, slightly

tessellated, a little broader but not longer than the thorax; dorsal stripe black. *Fem.* with cinereous tomentum. Head white in front; frontalia piceous. Thorax with four indistinct brown stripes. Cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, parted by much more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen fusiform, a little longer than the thorax.

Common. (E.)

47. **allecta**, n. *Mas*, cinereo-tomentosa, pilosissima, thorace nigro-quinquevittato, metathorace cano, *alis subcinereis basi subfulvis*, vena discali transversa valde incurva, abdomine lineari vitta dorsali nigra. Long. 3; alar. 6 lin.

Black, very hairy, with dark grey tomentum. Thorax with five blackish stripes; metathorax hoary. *Wings* very slightly greyish, with a tawny tinge at the base; cubital and præbrachial veins diverging from the præbrachial transverse vein to nearly opposite the end of the radial vein, where the cubital slightly converges towards the præbrachial; discal transverse vein oblique, much curved inward, parted by more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ whitish. Abdomen linear, with a black dorsal stripe, narrower but hardly longer than the thorax.

Not common. (E.)

48. **inconfessa**, n. Cinereo-tomentosa, frontilibus antice rufis, thorace fusco-quadrivittato, *alis subcinereis*, abdomine fusiformi vitta dorsali nigra. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with cinereous tomentum. Head whitish in front; frontalia red towards the antennæ. Thorax with four brown stripes. *Wings* greyish; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein curved inward, parted by nearly twice its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen fusiform, with a black dorsal stripe, a little longer and narrower than the thorax.

Not rare. (E.)

49. **conica**, Wied. Z. M. I. 79. 29 (1816); Fal.; Meig.; Ahrens! Fn. 10. pl. 23; Mcq.; Zett. Cinereo-tomentosa, angusta, thorace fusco-quadrivittato lateribus canis, *alis cinereis*, abdomine longi-obconico cinereo-cano, tibiis ferrugineis. Long. 3-4; alar. 6-8 lin.

Black, long and narrow, with cinereous tomentum. Head white. Thorax with four brown stripes, hoary on each side. *Wings* grey; cubital and præbrachial veins diverging slightly from the præbrachial

transverse vein to the border; *discal transverse vein very oblique and undulating*, parted by hardly more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ greyish, with testaceous borders. Abdomen long obconical, cinereous-hoary, a little longer and narrower than the thorax, with a black dorsal stripe, which tapers from the base to the tip; tibiæ ferruginous.

Generally distributed. (E. S. I.)

50. **subtracta**, n. Cinereo-cano-tomentosa, *thorace nigro-quadrivittato*, alis subcinereis, abdomine ovato, tibiis fulvis. Long. 3; alar. 6 lin.

Black, with cinereous-hoary tomentum. Head whitish in front and beneath. *Thorax with four slender blackish stripes*. Wings greyish; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, hardly diverging from thence to the border. Alulæ whitish; *discal transverse vein slightly oblique, very slightly undulating*, parted by a little more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish. Abdomen oval, not longer nor broader than the thorax. Tibiæ tawny.

Not common. (E.)

51. **absens**, n. Cinereo-tomentosa, *thorace nigro-trivittato*, lateribus canis, alis subcinereis, vena præbrachiali transversa nulla, abdomine longi-ovato *maculis quatuor lateralibus pallidis*, vitta dorsali et segmentorum marginibus posticis nigris, tibiis ferrugineis. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head white. *Thorax with three black stripes*, hoary on each side. Wings greyish, with no præbrachial transverse vein; cubital and præbrachial veins diverging slightly to the border; discal transverse vein oblique, deeply undulating, parted by more than half its length from the border. Alulæ whitish. *Abdomen elongate-oval, a little longer than the thorax, with a large pale semi-transparent spot on each side of the second and of the third segments*; dorsal stripe and borders of segments black; tibiæ ferruginous.

Not common. (E.)

52. **pluvialis**, L. Fn. 1844 (1761); F.; Gmel.; Schr.; Latr.; Fal.; Meig.; Mcq.; Zett.—*litus*, Harr.—Geoffr.; D.G. Albido-tomentosa, *thorace abdomineque nigro-maculatis*, alis sublimpidis. Long. 2-3; alar. 4-6 lin.

Black, with whitish tomentum. Head white. Epistoma prominent; sixth joint of the antennæ very minutely pubescent. *Thorax with seven black spots, two in front, three in the middle, and two on the scutellum*. Wings nearly limpid; cubital and præbrachial veins slightly diverging along three-fourths of the length from the præbrachial transverse vein, slightly converging from thence to the border; discal transverse vein

oblique, slightly undulating, parted by about half its length from the border. Alulæ white. *Abdomen* as long as the thorax, with two black spots on the first segment, and three on each of the following segments to the fourth. *Male*. Discal transverse vein parted by its length from the præbrachial transverse vein. *Abdomen* linear. *Fem*. Discal transverse vein parted by rather more than its length from the præbrachial transverse vein. *Abdomen* elliptical.

Generally distributed. (E. S. I.)

53. **canicularis**, L. Fn. 1841 (1761); F.; Gmel.; Schr.; Fal.; Meig.; Meq.; Zett. Cinereo-tomentosa, thorace fusco-quadrivittato, alis subcinereis, abdomine fusiformi lateribus basi testaceo-semipellucidis. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with cinereous tomentum. Head silvery white; sixth joint of the antennæ very minutely pubescent. Thorax with four brown stripes. Wings greyish; cubital and præbrachial veins slightly diverging along three-fourths of the length from the præbrachial transverse vein, and thence very slightly converging to the border; discal transverse vein slightly oblique, curved inward in the middle, parted by a little less than its length from the præbrachial transverse vein, and by about half its length from the border. Alulæ whitish. *Abdomen* subfusiform, testaceous and semi-diaphanous towards the base, with the exception of a dorsal stripe which is dilated on the hind borders of the second and third segments.

Generally distributed. (E. S. I.)

54. **elapsa**, n. Cinereo-tomentosa, thorace fusco-quadrivittato, alis sublimpidis, abdomine ovato æneo-cinereo. Long. 3; alar. 6 lin.

Black, with pale cinereous tomentum. Head white in front and beneath. Thorax with four slender indistinct brownish stripes. Wings nearly limpid; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, from whence to the border they are nearly parallel, but the cubital is very slightly curved; discal transverse vein slightly oblique, hardly curved inward, parted by very much more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ slightly greyish, with testaceous borders. *Abdomen* oval, with a slight æneous tinge, a little broader and longer than the thorax.

Not common. (E.)

55. **desulans**, n. Cano-tomentosa, thorace nigro-quadrivittato, alis subcinereis, abdomine ovato. Long. 3; alar. 6 lin.

Black, with hoary tomentum. Head white; frontalia deep black; sixth joint of the antennæ pubescent. Thorax with four blackish stripes. Wings slightly grey; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, hardly curved inward, parted by much more than its length from the præbrachial transverse vein, and by much less than

its length from the border. Alulæ whitish, with pale testaceous borders. Abdomen oval, not longer than the thorax.

Not common. (E.)

56. **radicum**, L. Fn. 1840 (1761); F.; Fal.; Meig.; Mcq.; Zett. —*Napobrassica*, Bjerkander. —*Brassica*, Wied. *Mas*, cinereo-tomentosa, *thorace non vittato*, alis cinereis, *abdomine subelliptico vitta lata dorsali nigra*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

*Male*. Black, with dark grey tomentum. Sixth joint bare. *Thorax not striped*. Wings grey; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to half their length beyond the discal transverse vein, whence they slightly converge to the border; discal transverse vein very slightly oblique, almost straight, parted by nearly its length from the præbrachial transverse vein, and by nearly half its length from the border. Alulæ whitish. *Abdomen* subelliptical, *with a broad black dorsal stripe*, a little longer than the thorax.

Generally distributed. (E. S. I.)

57. **defixa**, n. Nigro-cinereo-tomentosa, alis subcinereis, *thorace abdomineque non vittatis*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with dark cinereous tomentum. *Thorax and abdomen not striped*. Wings slightly grey; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, almost parallel from thence to the border; discal transverse vein nearly upright, hardly undulating, parted by very much more than its length from the præbrachial transverse vein, and by hardly more than half its length from the border. Alulæ slightly greyish, with pale testaceous borders. Abdomen oval, a little longer than the thorax.

Not common. (E.)

58. **varia**, Meig. Zw. v. 187. 182 (1826). *Glaucescens-tomentosa*, alis limpidis, abdomine fusiformi, pedibus testaceis, tarsis nigris. Long. 2; alar. 4 lin.

*Black, with glaucous whitish tomentum*. Head white; frontalia blackish. Sixth joint of the antennæ very minutely pubescent. Wings limp; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, almost parallel from thence to the border; discal transverse vein nearly upright, hardly undulating, parted by much more than its length from the discal transverse vein, and by a little more than its length from the border. Alulæ whitish. Abdomen fusiform, a little longer than the thorax. Legs testaceous; tarsi black.

Not rare. (E.)

59. **futilis**, n. *Fulva*, capite supra antennisque apice nigris, alis subcinereis basi et antice subluridis, abdomine ovato, tarsis nigris. Long. 4; alar. 8 lin.

*Tawny, testaceous beneath*. Head black above. Palpi testaceous.

Antennæ black; first and second joints tawny; sixth pubescent. Wings greyish, with a lurid tinge at the base and in front; cubital and præbrachial veins slightly diverging for about two-thirds of the length from the præbrachial transverse vein, nearly parallel from thence to the border; discal transverse vein slightly oblique, very slightly undulating, parted by a little more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ limpid, with testaceous borders. Abdomen oval, not longer than the thorax. Legs pale tawny; tarsi black.

Not common. (E.)

60. **pullula**, Zett. D. S. iv. 1449. 60 (1845).—*longula*, Meig.; Mcq. Fœm. pallide cinereo-tomentosa, thorace fusco-quinquevittato, *alis subcinereis venis transversis infuscat*is, abdomine ovato vitta dorsali interrupta nigra, *tibiis nigris*. Long.  $2\frac{1}{4}$ ; alar.  $4\frac{1}{2}$  lin.

Black, with pale cinereous tomentum. Head white in front and beneath. Thorax with five brown stripes, the outer pair indistinct. *Wings slightly grey; transverse vein clouded with brown*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, almost parallel from thence to the border; discal transverse vein very slightly oblique, almost straight, parted by nearly twice its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish. Abdomen oval, with an interrupted black dorsal stripe, as long as the thorax. *Tibiæ black*.

Not common. (E.)

61. **flavipennis**, Fal. Msc. 59. 52 (1823); Zett.—*crassirostris*, Meig.; Mcq. *Mas*, nigro-cinereo-subtomentosa, nitens, capite antice albo, thorace nigro-trivittato, *alis subcinereis basi et antice subluteis*, abdomine lineari. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, shining, with very little dark grey tomentum. Head white in front. Sixth joint of the antennæ with long hairs. Thorax with three black stripes. *Wings greyish, slightly luteous at the base and in front*; veins luteous, with black tips; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein straight, nearly upright, parted by more than twice its length from the præbrachial transverse vein, and by less than its length from the border. Alulæ whitish. Abdomen linear, narrower and longer than the thorax.

Common on the hills by the upper part of Wharfedale.

62. **coarctata**, Fal. Msc. 84. 108 (1810); Meig.; Mcq.; Zett. Pallide cinereo-fulvo-tomentosa, thorace vittis tribus indistinctis obscurioribus, *alis subfulvis apice subcinereis*, abdomine gracillimo, *tibiis ferrugineis*. Long. 3; alar. 6 lin.

Black, with pale cinereous fawn-coloured tomentum. Head white. Thorax with three indistinct slightly darker stripes. *Wings greyish*,



with a tawny tinge for half the length from the base; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein slightly oblique, a little curved inward, parted by a little more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. Abdomen linear, very slender, longer and much narrower than the thorax. *Tibiæ ferruginous.*

Common near Darent Wood, in Kent.

63. **præpotens**, Weid. Z. M. I. 83. 36 (1816); Fal.; Meig.; Mcq.; Zett. Nigra, cinereo-tomentosa, *thorace fusco-trivittato*, lateribus et metathorace canis, *alis cinereis vix fuscescentibus*, abdomine longi-obconico, vitta dorsali et segmentorum marginibus nigris, *pedibus fulvis*, tarsis nigris. Long. 3-4; alar. 6-8 lin.

Black, with cinereous tomentum. Head white. Sixth joint of the antennæ with long hairs. *Thorax with three brown stripes*; sides and metathorax hoary. *Wings grey, with a slight brownish tint*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique, undulating, with the hinder curve much deeper than the fore curve, parted by a little more than its length from the præbrachial transverse vein, and by full half its length from the border. Alulæ whitish. Abdomen long-obconical, longer and a little narrower than the thorax; dorsal stripe and borders of segments blackish. *Legs tawny*; tarsi black. *Fem.* Frontalia bright red in front; lateralia tawny.

Common. (E. S.)

64. **ferrugineo-vittata**, Zett. D. S. iv. 1703. 76 (1845). *Fæm.* albedo-cinereo-tomentosa, capite albo, frontalibus rufis, *thorace obsolete trivittato*, *alis sublimpidis antice subluridis*, abdomine subfusiformi obsolete vittato, *pedibus fulvis*, tarsis nigris. Long. 3-3½; alar. 6-7 lin.

Black, with whitish-cinereous tomentum. Head white; frontalia bright red; lateralia ferruginous. *Thorax with three indistinct slightly darker stripes.* *Wings nearly limpid, with a slight lurid tinge in front*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to nearly opposite the end of the radial vein, from whence to the border the cubital slightly converges towards the præbrachial; discal transverse vein slightly oblique, very slightly curved inward, parted by very much more than its length from the præbrachial transverse vein, and by much more than half its length from the border. Alulæ whitish. Abdomen subfusiform, with an indistinct dark dorsal stripe, hardly longer than the thorax. *Legs tawny*; tarsi black.

Common near Darent Wood, in Kent.

65. **tempta**, n. Canescente-tomentosa, *thorace fusco-quadrivittato*, *alis subcinereis*, abdomine obconico, *pedibus validis*. Long. 3½; alar. 7 lin.

Black, with grey tomentum. Head whitish; frontalia tawny towards the antennæ. Thorax with four brown stripes. Wings slightly grey; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein slightly oblique, a little bent inward, parted by almost twice its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ white. Abdomen obconical, not longer than the thorax.

Not common. (E.)

66. **ciliata**, F. E. S. iv. 333. 87 (1792); Meig.; Mcq.—*spinipes*, Fal.; Zett.—*bimaculata*, Meig. Nigro-cærulea, nitens, capite albo, frontalibus pedibusque nigris, humeris abdominisque fasciis interruptis albo-tomentosis, alis limpidis. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Bluish-black, shining. Head white in front. Sixth joint minutely pubescent. Wings limpid; cubital and præbrachial veins diverging from the præbrachial transverse vein to a little beyond the discal transverse vein, almost parallel from thence to the border; discal transverse vein very slightly oblique, undulating, parted by about half its length from the border. Alulæ greyish, with tawny borders. Abdomen oval, not longer than the thorax. *Male*. Discal transverse vein parted by nearly its length from the præbrachial transverse vein. *Fem*. Frontalia deep black; discal transverse vein parted by much more than its length from the præbrachial transverse vein.

Not rare. (E. S. I.)

67. **humilis**, Meig. Zw. v. 220. 23 (1826); Zett. *Fœm.* canotomentosa, capite et antennarum articulo secundo albidis, alis sublimpidis, *abdominis segmentis fusco-trimaculatis*, pedibus piceis, tarsis nigris. Long.  $1-1\frac{1}{2}$ ; alar. 2–3 lin.

Black, with hoary tomentum. Head whitish. Second joint of the antennæ whitish above. Wings nearly limpid; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, hardly diverging from thence to the border; discal transverse vein very slightly oblique, slightly undulating, parted by more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. *Abdomen* elongate-oval, a little longer than the thorax; *segments with three brown spots on each*. Legs piceous; tarsi black.

Not rare. (E.)

68. **sepia**, Meig. Zw. v. 152. 121 (1826); Mcq.; Zett. *Mas*, atra, capite albo, alis fuscis, halteribus flavis, *abdomine nigro-cinereo sublineari vitta dorsali nigra*. Long.  $1\frac{3}{4}$ –2; alar.  $3\frac{1}{2}$ –4 lin.

Deep black. Head white. Wings brown; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to a little beyond the discal transverse vein, parallel from thence to the border; discal transverse vein slightly oblique, hardly curved inward, parted by

a little more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. Halteres yellow. *Abdomen* greyish-black, sublinear, longer than the thorax, with a black dorsal stripe.

Not rare. (E.)

69. **decrepita?** Zett. D. S. iv. 1454. 65 (1845). *Fæm.* cinereo-tomentosa, frontalibus atris, *thorace fusco-trivittato* lateribus canis, alis cinereis basi et antice subluridis, *abdomine subfusiformi non vittato*. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head white; frontalia broad, deep black. Sixth joint of the antennæ pubescent. *Thorax with three brown stripes*, hoary on each side. Wings grey, with a lurid tinge at the base and in front; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein very slightly oblique, hardly curved inward, parted by very much more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ whitish. *Abdomen subfusiform*, longer than the thorax, *not striped*.

Not common. (E.)

70. **brunneilinea?** Zett. D. S. iv. 1448. 58 (1845). *Fæm.* cinereo-cano-tomentosa, capite albido, frontalibus atris antice rufis, *thorace fusco-quinquevittato*, alis fulvo-subcinereis, *abdomine longi-ovato non vittato*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with cinereous hoary tomentum. Head whitish; frontalia broad, deep black, more or less bright red in front. Sixth joint of the antennæ pubescent. *Thorax with five slender pale brown stripes*. Wings greyish, with a slight tawny tinge at the base and in front; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, almost parallel from thence to the border; discal transverse vein oblique, almost straight, parted by very much more than its length from the præbrachial transverse vein, and by more than half its length from the border. Alulæ whitish. *Abdomen elongate-oval*, hardly longer than the thorax, *not striped*.

Not rare. (E.)

71. **varicolor**, Meig. Zw. v. 167. 146 (1826). Canescente-tomentosa, capite albo, frontalibus antice rufis, *thorace vittis tribus indistinctis obscurioribus*, alis *lurido-subfuscis*, *abdominis vitta dorsali nigra*. Long.  $2\frac{1}{2}$ -3; alar. 6 lin.

Black, with grey tomentum. Head white; frontalia red in front. Sixth joint of the antennæ very minutely pubescent. *Thorax with three indistinct darker stripes*. *Wings brownish, with a lurid tinge*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein slightly oblique, straight, parted by much more than its length from the præbrachial transverse vein, and by more than

half its length from the border. Alulæ pale. *Abdomen with a black dorsal stripe*, a little longer than the thorax. *Male*. Abdomen linear. *Fem.* Abdomen fusiform.

Not rare. (E.)

72. **incisurata**, Zett. I. L. 679. 79 (1840), *mas*; Zett. D. S. *mas et form.—impura*, Zett. I. L. *form.* *Mas*, obscure canescente-tomentosa, capite albo, thorace nigro-trivittato, *alis subcinereis*, *abdomine subfusiformi* *vic thoracis longitudine*, *vitta dorsali et segmentorum marginibus nigris*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, with grey tomentum. Head white. Sixth joint of the antennæ pubescent. Thorax with three black stripes. *Wings greyish*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel to half the length between the latter and the border, where the cubital is slightly inclined towards the præbrachial; *discal transverse vein* very oblique, hardly undulating, *parted by about its length from the præbrachial transverse vein*, and by full half its length from the border. Aluke whitish. *Abdomen* nearly fusiform, *hardly so long as the thorax*; *dorsal stripe and borders of segments black*.

Common. (E.)

73. **floralis**, Fal. Msc. 71. 76 (1810); Meig.; Mcq.; Zett. Canescente-tomentosa, capite albo, thorace nigro-trivittato lateribus albidis, *alis subcinereis*, *abdomine longi-ovato thorace longiore*, *vitta dorsali lata et segmentorum marginibus nigris*. Long. 3; alar. 6 lin.

Black, with grey tomentum. Head white. Sixth joint of the antennæ pubescent. Thorax with three black stripes, whitish on each side. *Wings greyish*; cubital and præbrachial veins very slightly diverging from the præbrachial transverse vein to beyond the discal transverse vein, from thence to the border the cubital is slightly inclined towards the præbrachial; *discal transverse vein* oblique, very slightly undulating, *parted by much more than its length from the præbrachial transverse vein*, and by much less than its length from the border. Alulæ white. *Abdomen* long obconical, *longer and narrower than the thorax*; *a broad dorsal stripe and borders of the segments black*.

Common. (E.)

74. **compuncta**, Wied. Z. M. I. 80. 30; Meig.; Mcq.; Zett. Subfusco-cinereo-tomentosa, capite albo, *alis subfusco-cinereis*, *abdomine vitta dorsali maculisque quatuor nigris*, *tibiis ferrugineis*. Long. 3; alar. 6 lin.

Black, with brownish-cinereous tomentum. Head white. Sixth joint of the antennæ very minutely pubescent. *Wings brownish-grey*; cubital and præbrachial veins slightly converging from the præbrachial transverse vein to some distance beyond the discal transverse vein, very slightly converging from thence to the border; *discal transverse vein* very slightly oblique, almost straight, *parted by nearly its length from*

the præbrachial transverse vein, and by much less than its length from the border. Abdomen tapering, a little longer and narrower than the thorax, with a black dorsal stripe; second and third segments with two black spots on each. Tibiæ ferruginous.

Not rare. (E.)

75. **stricta**, n. Nigro-piceo-tomentosa, capite albo, alis cinereis, pedibus piceis, tarsis nigris; *Mas*, abdomine fusiformi; *Fæm.* abdomine obconico acuminato. Long.  $1-1\frac{1}{2}$ ; alar.  $2-2\frac{1}{2}$  lin.

Piceous-black. Head white. Sixth joint of the antennæ minutely pubescent. Wings grey; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein straight, nearly upright, parted by much more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish, very small. Abdomen a little longer than the thorax. Legs piceous; tarsi black. *Male*. Abdomen fusiform. *Fem.* Abdomen obconical, acuminated.

Not common. (E.)

76. **mollicula**, Fal. Msc. 90. 126 (1825); Zett.—*nemoralis*, Meig.; Meq. Albido-tomentosa, capite albo, antennis articulo tertio testaceo, thorace fusco-bivittato, alis limpidis, abdomine pedibusque testaceis, tarsis nigris. Long.  $1\frac{1}{2}-2$ ; alar. 3-4 lin.

Black, with whitish tomentum. Head white; frontalia blackish. Antennæ black; third joint testaceous; sixth very minutely pubescent. Thorax with two brown stripes. *Wings limpid*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence to the border; discal transverse vein nearly upright, straight, parted by nearly twice its length from the præbrachial transverse vein and from the border. Alulæ white. *Abdomen testaceous*, a little longer than the thorax. *Legs testaceous*; tarsi black. *Male*. Abdomen linear. *Fem.* Third joint of the antennæ brown towards the tip. Abdomen fusiform.

Common near Darent, in Kent.

77. **fungorum**, D. G.! Ins. vi. 42. 18. pl. 5. f. 1-7 (1752); Fal.; Meig.; Zett. Canescente-tomentosa, capite argenteo, thorace vittis quatuor indistinctis nigricantibus, scutelli apice ferrugineo, alis cinereis basi flavis, abdomine depresso pedibusque fulvis, tibiis anticis piceis, tarsis nigris. Long. 4; alar. 8 lin.

Black, with grey tomentum. Head silvery-white. Sixth joint of the antennæ very minutely pubescent. Thorax with four indistinct blackish stripes. Scutellum ferruginous at the tip and beneath. *Wings grey, yellow at the base*; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, parallel from thence till near the border, where the cubital converges towards the præbrachial; discal transverse vein oblique, slightly undulating,

parted by a little more than its length from the præbrachial transverse vein, and by less than half its length from the border. Alulæ whitish, with testaceous borders. *Abdomen tawny*, fusiform, *depressed*, a little longer than the thorax. *Legs tawny*; tarsi black; fore femora dark tawny; fore tibiæ piceous.

Not common. (E.)

78. **mitis**, Meig. Zw. v. 183. 173 (1826); Mcq.; Zett. Canotomentosa, frontalibus rufis, *palpis abdomine convexo pedibusque fulvis*, antennis basi ferrugineis, thorace subvittato, *alis subcinereis basi et antice subluridis*, tarsis nigris. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, with hoary tomentum. Head white; frontalia red; lateralia ferruginous; palpi tawny. First and second joints of the antennæ ferruginous; sixth very minutely pubescent. Thorax indistinctly striped. *Wings greyish, with a slight lurid tinge at the base and in front*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, nearly parallel from thence to the border; discal transverse vein nearly upright, almost straight, parted by very much more than its length from the præbrachial transverse vein, and by a little more than half its length from the border. Alulæ whitish. *Abdomen tawny, convex*, a little longer than the thorax. *Legs tawny*; tarsi black. *Male*. Abdomen linear. Fore femora black, with tawny tips. *Fem*. Palpi with black tips. Abdomen fusiform.

Generally distributed. (E. S. I.)

79. **fulgens**, Meig. Zw. v. 183. 172 (1826). Canescente-tomentosa, palpis fulvis apice nigris, scutelli apice pedibusque fulvis, *alis lurido-fuscis, abdomine fulvo* lineari apice segmentorum marginibus et tarsis nigris. Long. 3; alar. 6 lin.

Black, with grey tomentum. Lateralialia ferruginous. Palpi tawny, with black tips. Sixth joint of the antennæ very minutely pubescent. Scutellum tawny towards the tip. *Wings lurid brown*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the discal transverse vein, nearly parallel from thence to the border, near which the cubital slightly converges towards the præbrachial; discal transverse vein oblique, almost straight, parted by its length from the præbrachial transverse vein, and by little more than half its length from the border. Alulæ brown. *Abdomen tawny*, linear, very hairy, a little longer and narrower than the thorax; borders of segments black. *Legs tawny*, slender; tarsi black.

Not common. (E.)

80. **ornata**, Meig. Zw. v. 191. 188 (1826), *mas*. Nigra, capite albido; *Mas, alis fusco-cinereis, abdomine testaceo longi-ovato apice nigro* segmentorum marginibus nigricantibus. Long. 2; alar. 4 lin.

Black. Head whitish. *Wings grey, brownish in front and along the veins*; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border; discal transverse vein oblique,

straight, parted by a little more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Alulæ whitish. Abdomen testaceous, elongate-oval, black towards the tip; borders of the segments blackish.

Not common. (E.)

The following additional species of *Anthomyia*, etc., have been recorded as British :—

## ANTHOMYIA.

- |                               |                              |
|-------------------------------|------------------------------|
| 1. lugubris, <i>Meig.</i>     | 38. manicata, <i>Meig.</i>   |
| 2. umbratica, <i>Meig.</i>    | 39. lepida, <i>Wied.</i>     |
| 3. obscurata, <i>Meig.</i>    | 40. scalaris, <i>F.</i>      |
| 4. notata, <i>Fal.</i>        | 41. blanda, <i>Meig.</i>     |
| 5. maculosa, <i>Meig.</i>     | 42. dentipes, <i>F.</i>      |
| 6. hilaris, <i>Fal.</i>       | 43. floricola, <i>Meig.</i>  |
| 7. albiceps, <i>Meig.</i>     | 44. triangula, <i>Fal.</i>   |
| 8. virginea, <i>Meig.</i>     | 45. pacifica, <i>Meig.</i>   |
| 9. variata, <i>Fal.</i>       | 46. diadema, <i>Meig.</i>    |
| 10. sociata, <i>Meig.</i>     | 47. pusilla, <i>Meig.</i>    |
| 11. divisa, <i>Meig.</i>      | 48. albipennis, <i>Meig.</i> |
| 12. æqualis, <i>Meig.</i>     | 49. gibbera, <i>Meig.</i>    |
| 13. cinerella, <i>Fal.</i>    | 50. tristis, <i>Meig.</i>    |
| 14. ruralis, <i>Meig.</i>     | 51. carbonaria, <i>Meig.</i> |
| 15. Cardui, <i>Meig.</i>      | 52. fumigata, <i>Wied.</i>   |
| 16. ancilla, <i>Meig.</i>     | 53. glabricula, <i>Fal.</i>  |
| 17. semicinerea, <i>Wied.</i> | 54. stygia, <i>Meig.</i>     |
| 18. denigrata, <i>Meig.</i>   | 55. luctuosa, <i>Meig.</i>   |
| 19. asella, <i>Meig.</i>      | 56. nigella, <i>Meig.</i>    |
| 20. nigrata, <i>Fal.</i>      | 57. aterrima, <i>Meig.</i>   |
| 21. signata, <i>Meig.</i>     | 58. ærea, <i>Fal.</i>        |
| 22. perdita, <i>Meig.</i>     | 59. pratensis, <i>Meig.</i>  |
| 23. variegata, <i>Meig.</i>   | 60. tetra, <i>Wied.</i>      |
| 24. separata, <i>Meig.</i>    | 61. leucostoma, <i>Fal.</i>  |
| 25. modesta, <i>Wied.</i>     | 62. Anthrax, <i>Meig.</i>    |
| 26. pertusa, <i>Meig.</i>     | 63. triquetra, <i>Fal.</i>   |
| 27. strenua, <i>Meig.</i>     | 64. pratincola, <i>Pz.</i>   |
| 28. sericata, <i>Meig.</i>    | 65. promissa, <i>Meig.</i>   |
| 29. strigosa, <i>F.</i>       | 66. antiqua, <i>Meig.</i>    |
| 30. nigrimana, <i>Meig.</i>   | 67. stigmatica, <i>Meig.</i> |
| 31. irritans, <i>Fal.</i>     | 68. æstiva, <i>Meig.</i>     |
| 32. bidens, <i>Wied.</i>      | 69. muscaria, <i>F.</i>      |
| 33. palæstrica, <i>Meig.</i>  | 70. sprete, <i>Meig.</i>     |
| 34. militaris, <i>Meig.</i>   | 71. platura, <i>Meig.</i>    |
| 35. meteorica, <i>L.</i>      | 72. melanura, <i>Meig.</i>   |
| 36. armipes, <i>Fal.</i>      | 73. striolata, <i>Fal.</i>   |
| 37. armata, <i>Meig.</i>      | 74. fugax, <i>Meig.</i>      |

- |                            |                               |
|----------------------------|-------------------------------|
| 75. fuscula, <i>Fal.</i>   | 82. inanis, <i>Fal.</i>       |
| 76. ruficeps, <i>Meig.</i> | 83. posticata, <i>Meig.</i>   |
| 77. picipes, <i>Meig.</i>  | 84. obtusipennis, <i>Fal.</i> |
| 78. bicolor, <i>Hoff.</i>  | 85. riparia, <i>F.</i>        |
| 79. Winthemi, <i>Meig.</i> | 86. hirticeps, <i>Meig.</i>   |
| 80. solennis, <i>Meig.</i> | 87. occulta, <i>Wied.</i>     |
| 81. diaphana, <i>Wied.</i> |                               |

## CÆNOSIA.

- |                            |                             |
|----------------------------|-----------------------------|
| 1. pumila, <i>Fal.</i>     | 8. means, <i>Meig.</i>      |
| 2. rufina, <i>Fal.</i>     | 9. pedella, <i>Fal.</i>     |
| 3. sexnotata, <i>Meig.</i> | 10. nigra, <i>Meig.</i>     |
| 4. verna, <i>F.</i>        | 11. minima, <i>Meig.</i>    |
| 5. intermedia, <i>Fal.</i> | 12. geniculata, <i>Fal.</i> |
| 6. murina, <i>Meig.</i>    | 13. myopina, <i>Fal.</i>    |
| 7. nigrimana, <i>Meig.</i> |                             |

SCHÆNOMYZA, *Hal.*

- |                            |                           |
|----------------------------|---------------------------|
| 1. littorella, <i>Fal.</i> | 2. fasciata, <i>Meig.</i> |
|----------------------------|---------------------------|

Genus II. **DRYMEIA.**

**DRYMEIA**, *Meig. Zw. v. 204 (1826); Mcq.; Zett. Musca p., Fal.*

Corpus oblongum, hirtum, setosum. Facies porrecta. Epistoma prominens. Oculi nudi. *Proboscis elongata, geniculata. Palpi subclavati.* Antennæ epistoma non attingentes; articulus tertius secundo longior; arista pubescens. Alulæ parvæ. *Mas.* Corpus valde setosum. Oculi contigui. Pedes hirsutissimi. *Fem.* Corpus sat setosum. Oculi remoti. Pedes subhirsuti.

Body rather long, hairy and bristly. Face and epistoma prominent. Eyes bare. *Proboscis long, geniculate towards the tip, with long labella. Palpi very slightly clavate.* Antennæ rather short, not reaching the epistoma; third joint longer than the second; sixth pubescent. Wings of moderate breadth. Alulæ small; lower valve extending a little beyond the upper. *Male.* Body and legs very bristly. Eyes contiguous. Abdomen nearly linear. *Fem.* Body and legs slightly bristly. Eyes remote. Abdomen fusiform.

1. **hamata**, *Fal. Msc. 61. 57 (1823); Zett.—obscura, Meig.; Mcq.* Nigra, cinereo-tomentosa, capite albo, alis subcinereis. Long.  $2\frac{1}{2}$ – $3\frac{1}{2}$ ; alar. 5–7 lin.

Black, with dark-grey tomentum. Head white. Thorax with four slender black stripes. Wings slightly grey, with a brownish tinge towards the base and in front; cubital and præbrachial veins slightly diverging from the præbrachial transverse vein to the border, the former



very slightly curved; discal transverse vein slightly oblique, hardly curved inward, parted by much more than its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ greyish, with testaceous borders.

Not rare. (E. I.)

### Genus III. LISPE.

LISPA, Latr. G. C. iv. 347 (1810); Zett. *Musca* p., D. G. *Lispe*, Fal.; Meig.; Hal.; Mcq.

Corpus subsetosum. Caput breve. Frons lata. Facialia nuda. Epistoma subprominens. *Oculi* nudi, *in utroque sexu remoti*. *Palpi capitati*. Antennæ epistoma vix attingentes; articulus tertius secundo duplo longior; arista basi supra plumata. Alæ parvæ. Alulæ mediocres. Abdomen ovatum, depressum. *Pedes intermedii elongati*.

Body slightly bristly. Head short; front broad; facialia bare; epistoma slightly prominent. *Eyes* bare, *remote in both sexes*. *Palpi capitati*. Antennæ nearly reaching the epistoma; third joint twice the length of the second; sixth plumose above towards the base. Wings rather small; cubital and præbrachial veins diverging from the præbrachial transverse vein to the discal transverse vein, nearly parallel from thence to the border; discal transverse vein slightly oblique, nearly straight, parted by about twice its length from the præbrachial transverse vein, and by much less than its length from the border. Alulæ of moderate size; lower valve extending much beyond the upper. Abdomen oval, flat. Legs slender; *middle legs rather long*.

These flies inhabit the sea-shore, and the borders of ponds and lakes. *L. adscita*, Hal., and perhaps another British species, might be removed from this genus.

1. **tentaculata**, D. G. I. vi. 42. 15 (1752); Latr.; Fal.; Meig.; Mcq.; Zett. Cinereo-tomentosa, subtus cana, *capite aurato, palpis fulvis*, thorace fusco-quadrivittato, alis cinereis, *abdomine e maculis albidis subtrigonis trivittato*; *Mas, tarsi anticis fulvo-cinctis*. Long.  $2\frac{1}{2}$ –3; alar. 4–5 lin.

Black, with cinereous tomentum, hoary beneath. *Head gilded in front*. *Palpi tawny*. Thorax with four brown stripes. Wings grey. Alulæ white. Abdomen with three whitish nearly triangular spots on each segment. *Femora, tibiæ, and tarsi of the middle legs long in both sexes*. *Male*. Fore metatarsus armed with a spine at the tip, shorter than the second joint, which is tawny and slightly dilated; third and fourth tawny beneath. Hind metatarsus with a tuft of bristles beneath at the base.

Not common. (E. I.)

2. **litorea**, Fal. Msc. 94. 5 (1810); Meig.; Zett. Fusco-tomentosa, subtus cana, *capite argenteo, palpis nigris*, thorace nigro-subquadrivittato, alis cinereis, abdomine cinereo, pedibus nigris; *Mus, tarsi intermediis brevissimis*. Long. 3; alar. 5 lin.

Black, with brown tomentum, hoary beneath and on each side of the thorax. *Head silvery in front. Palpi black.* Thorax with four slight blackish stripes. Wings grey. Alulæ white. Abdomen cinereous. *Legs black. Male.* Middle tarsi very short.

Not common. (E. I.)

*Alulæ indistinctæ vel nullæ*.—Div. 2. ACALYPTERÆ, Mcq.

These are generally distinguished from the *Calyptera* by their comparatively smaller size, their paler and less compact bodies, their more feeble flight, and by the less developed structure of their antennæ. They may be grouped thus:—

- a. Subcostal and mediastinal veins separate.
  - b. Head transverse.
    - c. Pobrachial and anal areolets of moderate length.
      - d. Wings almost always unspotted. 1. HELOMYZIDES.
      - d d. Wings very generally spotted. 4. ORTALIDES.
    - c c. Pobrachial and anal areolets very short. 3. LAUXANIDES.
  - b b. Head round, or elongated. 5. SEPSIDES.
- a a. Subcostal and mediastinal veins united.
  - b. Hind metatarsus thick. 2. BORBORIDES.
  - b b. Hind metatarsus slender.
    - c. Radial vein ending at not beyond three-fourths of the length of the wing. 7. OSCINIDES.
    - c c. Radial vein ending at much beyond three-fourths of the length of the wing.
      - d. Pobrachial and anal areolets distinct, long.
        - e. Discal transverse vein parted by not more than its length from the border. 6. PSILIDES.
        - e e. Discal transverse vein parted by full twice its length from the border. 9. PHYTOMYZIDES.
      - d d. Pobrachial and anal areolets indistinct or none.
        - e. Præbrachial transverse vein distant from the base of the wing. 8. GEOMYZIDES.
        - e e. Præbrachial transverse vein very near the base of the wing. 10. HYDROMYZIDES.

## SUBFAMILY 1. HELOMYZIDES.

*Scatomyzides*, Fal., et *Helomyzides*, Fal.

*Alæ vix unquam maculatæ, areolis pabrachiali et anali sat longis. Abdomen sessile. Pedes mediocres.*

*Wings very generally without marks. Pabrachial and anal areolets rather long. Abdomen sessile. Legs of moderate length.*

*a.* Tip of the abdomen thickened in the male, compressed in the female.

1. CORDYLURA.

*a a.* Tip of the abdomen not thickened nor compressed.

*b.* Proboscis smooth, shining, pointed. 2. SCATOPHAGA.

*b b.* Proboscis not smooth, nor shining, nor pointed.

*c.* Third joint of the antennæ elongate-conical, shorter than the second.

*d.* Hind femora armed beneath with spines. 12. SEPEDON.

*d d.* Hind femora without spines or bristles. 13. DORYCERA.

*c c.* Third joint of the antennæ nearly round, not longer than the second.

*d.* Body depressed, coriaceous. 3. CÆLOPA.

*d d.* Body not depressed nor coriaceous. 5. ACTORA.

*c c c.* Third joint of the antennæ longer than the second.

*d.* Second joint of the antennæ short.

*e.* Third joint of the antennæ round, a little longer than the second.

*f.* Costal vein armed with spines. 8. LERIA.

*f f.* Costal vein unarmed. 9. HETEROMYZA.

*e e.* Third joint of the antennæ conical, much longer than the second.

*f.* Body depressed, coriaceous. 4. ORYGMA.

*f f.* Body not depressed nor coriaceous. 6. SCIOMYZA.

*e e e.* Third joint of the antennæ conical, twice the length of the second.

*f.* Wings of moderate length. 7. HELOMYZA.

*f f.* Wings long. 10. DRYOMYZA.

*d d.* Second joint of the antennæ generally long; third rarely shorter than the second; hind femora beset with bristles.

11. TETANOCERA.

## Genus I. CORDYLURA.

CORDYLURA, Fal. Scat. 6 (1819); Meig.; Mcq.; Zett. *Musca* p., L.; F.; Gmel. *Ocyptera* p., F. *Mosina*, *Norellia*, *Phrosia*, *Nupharia*, et *Delina*, Desv.

Corpus angustum, cylindricum, setosum. Caput subrotundum. Frons lata. Proboscis brevis. Palpi filiformes, vel subfiliformes. Antennæ

epistoma non attingentes; articulus tertius linearis, secundo longior, apice subtruncatus. Thorax ellipticus. Alulæ angustæ. Abdomen thorace longius. Pedes validi, setosi. *Mas.* Abdomen lineare, apice incrassatum. *Fem.* Abdomen fusiforme.

Body narrow, cylindrical, bristly. Head nearly round; front broad in both sexes; face vertical; facialia without bristles; epistoma not prominent. Eyes nearly round. Proboscis short. Palpi filiform or nearly so. Antennæ not reaching the epistoma; third joint linear, longer than the second, somewhat truncated at the tip; fourth obsolete; fifth very minute; sixth setaceous, more than twice the length of the third. Thorax elliptical. Wings narrow; costal vein ending on the hind border near the tip; subcostal vein ending at about one-third of the length of the wing; mediastinal vein ending before half the length; radial vein ending before five-sixths of the length; cubital vein ending at the tip; cubital and præbrachial veins diverging from the præbrachial transverse vein to the straight and nearly upright discal transverse vein, nearly parallel from thence to the border. Abdomen longer than the thorax. Legs stout, bristly. *Male.* Abdomen linear, thickened at the tip. *Fem.* Abdomen fusiform.

*a.* Arista plumose with long hairs.

*b.* Fore femora and fore tibiæ without spines. Species 1, 2.

*b b.* Fore femora and fore tibiæ armed with spines beneath. Species 3, 4.

*a a.* Arista bare, or nearly so. Species 5, 6.

1. **pubera**, L. Fn. 1855 (1761); F.; Gmel.; Fal.; Meig.; Mcq.; Desv.; Zett. Nigra, albo-tomentosa, *palpis tibiis tarsisque fulvis*, thorace nigro-bivittato, alis flavo-cinereis apice fuscis; *Fem.* frontalibus rufis. Long. 3-4; alar. 6-7 lin.

Black. Head and thorax with white tomentum. *Palpi tawny*, with darker tips. Antennæ not near reaching the epistoma; third joint longer than the second. Thorax with two broad black stripes. Wings grey, tinged with yellow in front, tips brown, a slight incision at the tip of the pabrachial vein; discal transverse vein parted by much more than its length from the præbrachial transverse vein, and by much less than its length from the border; halteres, *tibiæ, and tarsi tawny*. Abdomen slightly tinged with grey. *Male.* Front very broad; frontalia deep black. *Fem.* Front moderately broad; frontalia red. Abdomen compressed at the tip.

Common. (E. I.)

2. **albipes**, Fal. Scat. 9. 8 (1819); Meig.; Mcq.; Zett.—*filipes*, Desv. Nigra, *subtus albida*, frontalibus antennisque luteis, palpis albis, *scutelli vitla pedibusque albidis*, tarsis fuscescentibus. Long. 2-2½; alar. 4 lin.

Black, *whitish beneath*. Frontalia luteous; palpi white. Antennæ

luteous; third joint twice the length of the second; arista black; *scutellum with a whitish stripe*. Wings hyaline; discal transverse vein parted by much more than its length from the præbrachial transverse vein, and by a little less than its length from the border. Halteres and legs whitish. Tarsi brownish. *Fem.* Abdomen compressed at the tip.

Common. (E. I.)

3. **flavicauda**, Meig. Zw. v. 235. 12 (1826); Mcq. *Nigro-picea*, capite subtus palpisque albis, frontalibus antennisque luteis, *thoracis lateribus pectore scutelloque rufescentibus*, alis subluridis, abdominis apice fulvo, pedibus testaceis, femoribus posterioribus apice fuscis. Long.  $2\frac{1}{2}$ ; alar. 4 lin.

*Piceous-black*. Head white beneath; frontalia luteous; palpi white. Antennæ luteous, nearly reaching the epistoma; third joint twice the length of the second; arista black. *Thorax more or less reddish on each side and beneath; scutellum reddish*. Wings generally slightly lurid; discal transverse vein parted by much more than its length from the præbrachial transverse vein, and by less than its length from the border. Halteres whitish. Abdomen tawny at the tip. Legs testaceous; posterior femora with brown tips. *Fem.* Abdomen compressed at the tip.

Common. (E.)

4. **spinimana**, Fal. Scat. 7. 3 (1819); Meig.; Mcq.; Zett.—*semiflava*, Pz.—*pseudo-narcissi*, Desv. *Fulva*, capite subtus palpisque albis, frontalibus antennisque luteis, *thorace fusco-bivittato*, alis subluridis, abdominis apice fulvo, pedibus testaceis, femoribus posterioribus apice fuscis. Long.  $2\frac{1}{2}$ ; alar. 4 lin.

*Tawny*. Head white beneath; frontalia luteous; palpi white. Antennæ luteous, nearly reaching the epistoma; third joint twice the length of the second; arista black. *Thorax with two brown stripes*, which are sometimes almost obsolete. Wings generally slightly lurid; discal transverse vein parted by much more than its length from the præbrachial transverse vein, and by much less than its length from the border. Halteres white. Abdomen tawny at the tip. Legs testaceous; posterior femora with brown tips. *Fem.* Abdomen compressed at the tip.

Common. (E. I.)

5. **litrata**, Wied.; Meig. Zw. v. 238. 19 (1826); Mcq.; Zett. *Nigra*, cinereo-tomentosa, capite subtus palpisque albis, frontalibus fulvis, *antennis flavis*, alis hyalinis apice fusciscentibus, *pedibus fulvis*. Long. 2; alar.  $3\frac{1}{2}$  lin.

Black, with grey tomentum. Head white beneath; frontalia tawny; palpi white. *Antennæ yellow*, nearly reaching the epistoma; third joint twice the length of the second; arista black. *Wings* hyaline, rather short; *tips brownish*; discal transverse vein parted by very much more than its length from the præbrachial transverse vein, and by less than

its length from the border. Halteres whitish. *Legs tawny; fore femora and fore tibiæ armed beneath with spines.* Male. Abdomen tawny beneath at the tip. *Fem.* Abdomen compressed at the tip.

Not rare. (E.)

6. **obscura**, Fal. Scat. 9. 6 (1819); Meig.; Mcq.; Zett. Nigra, cano-tomentosa, capite subtus palpisque albidis, *antennis basi ferrugineis, frontalibus rufis, alis hyalinis, pedibus piceis, tibiis testaceis.* Long. 2; alar. 4 lin.

Black, with hoary tomentum. Head whitish beneath; frontalia bright red; palpi whitish. *Antennæ black*, almost reaching the epistoma; *first and second joints ferruginous*; third more than twice the length of the second. Wings hyaline; discal transverse vein parted by more than its length from the præbrachial transverse vein, and by its length from the border. Halteres whitish. *Legs piceous; tibiæ testaceous.*

Not rare. (E. I.)

The following additional species of *Cordylura* have been recorded as British:—

- |                     |                       |
|---------------------|-----------------------|
| 1. ciliata, Meig.   | 8. fasciata, Meig.    |
| 2. pudica, Meig.    | 9. punctipes, Meig.   |
| 3. rufipes, Meig.   | 10. pallida, Fal.     |
| 4. nervosa, Meig.   | 11. hydromyzina, Fal. |
| 5. armipes, Meig.   | 12. fraterna, Meig.   |
| 6. striolata, Meig. | 13. livens, F.        |
| 7. apicalis, Wied.  |                       |

## Genus II. **SCATOPHAGA.**

Corpus longum, angustum, setosum. Frontalia plana. Frons prominens. Facies obliqua. Epistoma non prominens, lateribus setosis. Oculi ovati. Proboscis lævis, nitens, acuminata. Palpi graciles, subfiliformes. Antennæ mediocres; articulus tertius linearis, apice rotundatus; secundo plus duplo longior, quintus sat longus. Alæ sat angustæ. Abdomen pilosum, thorace longius. Pedes validi, setosi. *Mas.* Abdomen sublineare. *Fæm.* Abdomen fusiforme.

Body rather long and narrow. Head and thorax bristly. Head transverse; frontalia flat; front prominent; face oblique; facialia without bristles; epistoma not prominent, with several stout bristles on each side. Eyes oval. Proboscis long, slender, smooth, shining, pointed. Palpi slender, almost filiform. Antennæ nearly reaching the epistoma; third joint linear, rounded at the tip, more than twice the length of the second; fourth obsolete; fifth rather long; sixth plumose or bare. Thorax nearly elliptical. Wings rather narrow; costal vein ending on the hind border at some little distance from the tip of the wing; sub-

costal vein ending at about one-third of the length of the wing; mediastinal vein ending at beyond half the length; radial vein ending at beyond five-sixths of the length; cubital vein ending at the tip; cubital and præbrachial veins slightly diverging between the transverse veins, parallel or slightly converging from the discal transverse vein to the border. Abdomen very hairy. Legs stout, bristly. *Male*. Abdomen nearly linear. *Fem.* Abdomen fusiform.

*a. Arista plumose.*

*b. Discal transverse vein very oblique and undulating. Species 1.*

*b b. Discal transverse vein almost straight, slightly oblique or upright.*

*c. Antennæ black. Species 2, 3.*

*c c. Antennæ luteous. Species 4.*

*a a. Arista bare. Species 5, 6.*

The *Scatophaga* generally prey on other *Diptera*. "The eggs of *S. stercoraria* are deposited in dung, and if not thus surrounded with moisture, they shrivel up and come to nothing. But it is equally necessary that they should not be wholly covered; if they were, the young larva would be suffocated on emerging from the egg. Each egg is provided at its upper end, at which the animal when hatched comes out, with two diverging horns; these prevent it being stuck more than three-fourths of its length in the dung, in which the female deposits the eggs one by one."

1. **scybalaria**, L. Fn. 1860 (1761); F.; Gmel.; Latr.; Fal.; Meig.; Mcq.; Zett. Fulvo-tomentosa, capite luteo subtus fulvo, palpis flavis, antennis luteis, thorace fusco-bivittato, alis cinereo-fulvis; *Mas*, abdomine rufo-fulvo, pedibus rufescentibus; *Flem.* abdomine cinereo, apice et subtus fulvo, pedibus fulvis. Long. 4-5; alar. 10-11 lin.

Thickly covered with tawny tomentum. Head luteous, tawny beneath; proboscis black; palpi yellow. Antennæ luteous, nearly reaching the epistoma; third joint thrice the length of the second; arista black. Thorax with two brownish stripes. Wings tawny, grey along the hind border and in the discs of the areolets; cubital and præbrachial veins diverging from the præbrachial transverse to the discal transverse, slightly converging from thence to the border; præbrachial forming a slight angle at its junction with the præbrachial transverse; discal transverse very oblique, much curved outward, parted by very much more than its length from the præbrachial transverse, and by much less than half its length from the border. Halteres yellow. *Male*. Abdomen reddish-tawny. Legs reddish. *Fem.* Abdomen grey, tawny at the tip and beneath. Legs tawny.

Not common. (E. I.)

2. **stercoraria**, L. Fn. 1861 (1761); F.; Gmel.; Latr.; Fal.; Meig.; Mcq.; Zett.—*scybalaria*, Schr.; Réaum.; Geoff.; D. G. *Flavo-tomentosa*, capite supra luteo, palpis flavis, antennis nigris, thorace

supra fuscescente vittis quatuor obscurioribus, *alis fulvo-subcinereis, abdomine pedibusque fulvis*. Long. 3-4; alar. 8-10 lin.

*Thickly covered with yellow tomentum*. Head luteous between the eyes; proboscis black; palpi pale yellow. Antennæ black. Thorax brownish above, with four darker stripes. *Wings greyish, with a very slight tawny tinge along the borders of the veins*; cubital and præbrachial slightly diverging from the clouded præbrachial transverse to the discal transverse, almost parallel from thence to the border; discal transverse oblique, almost straight, parted by nearly twice its length from the præbrachial transverse, and by half its length from the border. Halteres pale yellow. *Abdomen and legs tawny*.

Generally distributed. (E. S. I.)

3. **merdaria**, F. E. S. iv. 344. 133 (1792); Meig.; Mcq.; Zett. *Cinereo-tomentosa*, capite luteo subtus palpisque flavis, antennis nigris, thorace fusco-quadrivittato, *alis fulvo-sublimpidis, pedibus testaceis, femoribus cinereis*. Long. 2-3; alar. 4-6 lin.

*With cinereous tomentum*. Head pale-yellow, luteous above; proboscis black; palpi pale-yellow. Antennæ black, not reaching the epistoma; third joint twice the length of the second. Thorax with four brown stripes. *Wings nearly limpid, with a slight tawny tinge in front*; cubital and præbrachial veins diverging from the clouded præbrachial transverse to the discal transverse, almost parallel from thence to the border; discal transverse oblique, almost straight, parted by much more than its length from the præbrachial transverse, and by full half its length from the border. Halteres pale yellow. *Legs testaceous; femora cinereous*.

Generally distributed. (E. S. I.)

4. **lutaria**, F. E. S. iv. 344. 134 (1792); Meig.; Mcq.; Zett. D. S. —*suilla*, Fal.; Zett. I. L.—*analisis*? Meig. *Cinereo-tomentosa*, capite palpisque flavis, frontibus rubris, antennis luteis, thorace fusco-quadrivittato, *alis subfulvescentibus, abdomine pedibusque fulvis, illius vitta dorsali suturisque nigris*; Var. *abdomine cinereo apice fulvo*. Long.  $2\frac{1}{2}$ – $3\frac{1}{2}$ ; alar. 5-7 lin.

*With cinereous tomentum*. Head yellow; frontalia deep red; proboscis black, testaceous towards the base; palpi yellow. Antennæ luteous; arista black. Thorax with four brownish stripes; metathorax hoary. Wings with a slight tawny tinge, especially towards the base; cubital and præbrachial veins slightly diverging from the præbrachial transverse to the discal transverse, almost parallel from thence to the border; discal transverse almost straight, nearly upright, parted by nearly twice its length from the præbrachial transverse, and by less than half its length from the border. Halteres yellow. Abdomen tawny; dorsal stripe and sutures of the segments black. Legs tawny. *Var.* Abdomen cinereous; tip tawny.

Generally distributed. (E. S. I.)



5. **squalida**, Meig. Zw. v. 252. 10 (1826). *Cervino-tomentosa*, capite palpisque albidis, frontalibus rufis, *antennis luteis*, articulo tertio apice fusco, thorace fusco-quadrivittato, alis subcinereis basi subfulvis apice subnigris, *venis transversis nebulosis*, abdomine cinereo apice ventre *pedibusque fulvis*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

*With fawn-coloured tomentum.* Head whitish; frontalia red; proboscis black; palpi whitish. *Antennæ luteous*; *third joint brown towards the tip*; arista black. Thorax with four brownish stripes; metathorax hoary. Wings slightly greyish, with a tawny tinge at the base and a blackish tinge at the tips; *transverse veins clouded*; cubital and præbrachial veins slightly diverging from the præbrachial transverse to the discal transverse, almost straight from thence to the border; discal transverse slightly oblique, almost straight, parted by much less than its length from the præbrachial transverse, and by less than half its length from the border. Halteres whitish. Abdomen *cinereous, tawny at the tip and beneath*. *Legs tawny*.

Not rare. (E. I.)

6. **litorea**, Fal. Scat. 4. 4 (1819); Meig.; Zett. *Cinereo-tomentosa*, capite albo, frontalibus cinereis antice flavis, *antennis nigris*, palpis fulvis, thorace fusco-quadrivittato, alis cinereis, *pedibus nigro-cinereis, tibiis fulvis*. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

*With cinereous tomentum.* Head white; frontalia cinereous, yellow in front; proboscis and *antennæ black*; palpi tawny. Thorax with four brownish stripes; metathorax hoary. Wings grey; cubital and præbrachial veins slightly diverging from the præbrachial transverse to the discal transverse, very slightly diverging from thence to the border; discal transverse straight and upright, parted by much more than its length from the præbrachial transverse, and by more than half its length from the border. Halteres yellow. *Legs cinereous-black*; *tibiæ tawny*.

Inhabits the sea-shore. (E. I.)

The following additional species of *Scatophaga* have been recorded as British:—

1. *inquinata*, Meig.
2. *turpis*, Hal.
3. *eximia*, Hal.
4. *spurca*, Meig.
5. *ostiorum*, Hal.
6. *cineraria*, Meig.
7. *arrogans*, Hal.
8. *incisa*, Mcq.
9. *furcata*, F.

10. *rufipes*, Meig.
11. *calida*, Hal.
12. *rudis*, Hal.
13. *decipiens*, Hal.
14. *bipunctata*, Mcq.

Subgen. HALITHEA, Hal.

15. *fucorum*, Fal.
16. *maritima*, Hal.

Genus III. **CÆLOPA.**

CÆLOPA, Meig. Zw. vi. 8 (1830); Mcq.; Zett.; Hal.

*Corpus depressum, coriaceum, sat angustum, setosum vel pilosum. Caput parvum, fere rotundum, thorace multo angustius. Facies subobliqua. Oculi parvi, oblongi. Antennæ brevissimæ; articulus tertius fere rotundus, secundo non longior. Thorax elongato-subquadratus, antice angustior. Alæ subangustæ. Abdomen ellipticum vel obconicum. Pedes validi; tibiæ subcurvatae.*

*Body flat, coriaceous, rather narrow, more or less bristly or hairy. Head small, nearly round, much narrower than the thorax; front and epistoma rather prominent; face slightly oblique. Eyes small, oblong. Proboscis and palpi short. Antennæ very short; third joint nearly round, not longer than the second; sixth long, slender, bare or pubescent. Thorax flat, elongate-subquadrate, narrower in front. Wings rather narrow; costal vein ending on the hind border near the tip of the wing; subcostal ending at beyond one-third of the length; mediastinal ending beyond half the length; radial ending at five-sixths of the length; cubital and præbrachial slightly diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse vein straight, upright, parted by more than twice its length from the præbrachial transverse, and by nearly its length from the border. Abdomen flat, elliptical or obconical, a little longer than the thorax. Legs stout, bristly or hairy; tibiæ slightly curved.*

These flies inhabit marine rejectamenta, and their flat bodies and tough coriaceous skins enable them to creep without injury among the loose stones and tangled seaweeds.

1. **frigida**, F. S. A. 307. 116 (1805); Fal.; Hal.; Zett.—*gravis*, Hal. E. M. Nigro-picea, antennis ferrugineis, alis limpidis, abdominis lateribus fulvo-maculatis, segmentis fulvo-marginatis, pedibus fulvis setosis. Long. 3–3½; alar. 6–7 lin.

Piceous-black, dull. Proboscis and antennæ ferruginous. Wings limpid. Halteres testaceous. Abdominal segments tawny along the hind border, and with a tawny spot on each side. Legs tawny, very bristly.

Generally distributed. (E. S. I.)

2. **pilipes**, Hal. A. N. H. ii. 186. 1 (1838).—*frigida*, Meig.; Mcq. Nigro-picea, antennis piceis basi rufescentibus, alis subcinereis, pedibus ferrugineis pilosis. Long. 2–2½; alar. 4–5 lin.

Piceous-black, dull. Proboscis testaceous. Antennæ piceous; first and second joints reddish. Wings slightly grey. Halteres testaceous. Legs ferruginous, very thickly clothed with hairs.

Generally distributed. (E. S. I.)

*C. frigida* belongs to the subgenus *Fucomyia*, Hal., and the

following additional species of *Caelopa* have been recorded as British :—

1. simplex, Hal.

Subgen. MALOCOMYIA, Hal.

2. parvula, Hal.

3. sciomyzina, Hal.

#### Genus IV. **ORYGMA.**

ORYGMA, Meig. Zw. vi. 6 (1830); Mcq.; Zett. *Psalidomyia*, Doumerc.

*Corpus coriaceum, sat breve, subdepressum, vix setosum. Caput thorace vix angustius. Frons latissima. Antennae breves; articulus tertius conicus, secundo multo longior; arista nuda. Abdomen subovatum, segmento secundo magno. Pedes pilosi, setosi.*

*Body coriaceous, rather short, almost flat, with a few bristles. Head nearly as broad as the thorax; front flat, very broad; face concave, nearly vertical; epistoma and peristoma not prominent. Proboscis and palpi very short. Antennae short, not reaching the epistoma; third joint conical, much longer than the second; sixth slender, bare. Thorax flat. Wings moderate; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending before half the length; mediastinal ending a little beyond half the length; cubital and præbrachial diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse nearly upright, very slightly oblique, parted by much more than its length from the præbrachial transverse, and by more than half its length from the border. Abdomen flat, nearly oval, with six segments, a little longer than the thorax; second segment large. Legs hairy and bristly.*

1. **luctuosa**, Meig. Zw. vi. 6. 1 (1830); Mcq.; Zett.—*fucicola*, Doumerc. Nigra, obscura, capite subtus ferrugineo, antennis piceis basi ferrugineis, thorace cinereo-quadrivittato, alis cinereis, pedibus testaceis. Long. 3; alar. 6 lin.

Dull black. Head ferruginous beneath. Antennae piceous; first and second joints ferruginous. Thorax with four cinereous stripes. Wings grey. Halteres and legs testaceous.

Inhabits seaweed. (E. S. I.)

#### Genus V. **ACTORA.**

ACTORA, Meig. Zw. v. 403 (1826). *Heteromyza* p., Fal. *Helcomyza*, Curt.

*Corpus elongatum, hirsutissimum, non depressum nec coriaceum. Caput thorace vix angustius, antice brevi-conicum. Palpi subclavati. Antennae brevissimae; articulus tertius subrotundus, secundo non longior;*

arista brevis, nuda. Thorax subellipticus. Alæ sat longæ. Abdomen obconicum, thorace vix longius. Pedes hirsutissimi, femoribus crassis.

*Body* elongate, very hairy, *not depressed nor coriaceous*. Head nearly as broad as the thorax, short-conical in front; vertex broad, convex; front slightly prominent; face nearly vertical, slightly concave; epistoma not prominent; peristoma slightly prominent. Eyes rather small, nearly round. Proboscis short. Palpi subclavate. *Antennæ very short*, not near reaching the epistoma; *third joint nearly round, not longer than the second*; sixth short, stout, bare. Thorax subelliptical, with an indistinct transverse furrow. Wings rather long; costal vein armed with short spines, ending on the hind border near the tip of the wing; subcostal ending beyond one-third of the length; mediastinal ending very far beyond half the length; radial ending at about seven-eighths of the length; cubital and præbrachial diverging between the costal veins, very slightly converging from the discal transverse to the border; discal transverse oblique, almost straight, parted by twice its length from the præbrachial transverse, and by one-third of its length from the border. Abdomen obconical, very little longer than the thorax. Legs very hairy; femora stout.

1. *æstum*, Meig. Zw. v. 403. 1 (1826); Mcq.—*ustulata*, Curt. l. B. E. 68. Nigra, cano-tomentosa, thorace fusco-quadrivittato, alis albis, abdomine glaucescente, pedibus fulvis, femoribus nigris. Long. 4–5; alar. 8–10 lin.

Black, with hoary tomentum. Head with white tomentum in front and beneath; palpi and antennæ black. Thorax with four brown stripes, the middle pair approximate. Wings white; veins mostly testaceous; præbrachial transverse clouded with brown. Halteres testaceous. Abdomen with glaucous tomentum. Legs tawny; femora black, with glaucous tomentum.

Inhabits the sea-shore. (E.)

*Actora buccata*, Fal., has been recorded as British.

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## Genus VI. **SCIOMYZA.**

SCIOMYZA, Fal. Sciom.; Meig. Zw. vi. 9 (1830); Mcq.; Zett.; Hal. *Musca* p., F. E. S. *Scatophaga* p., F. S. A.

*Corpus* sat angustum, *non depressum nec coriaceum*. Facies obliqua. *Antennarum articulus tertius subconicus, secundo multo longior*; arista pubescens. *Mas.* Abdomen lineare. *Fem.* Abdomen fusiforme.

*Body* rather narrow, *not depressed nor coriaceous*. Frontalia flat; face oblique; epistoma not prominent; peristoma rather produced. Proboscis short, thick; palpi filiform. *Antennæ* not reaching the epistoma; *third joint nearly conical, much longer than the second*; sixth pubescent.

Wings moderate; costal vein ending on the hind border at some little distance from the tip; subcostal ending at about one-third of the length of the wing; mediastinal ending at hardly beyond half; radial ending at about seven-eighths; cubital slightly diverging from the præbrachial between the transverse veins, more slightly converging to it from the discal transverse to the tip; discal transverse nearly straight and upright, parted by much more than its length from the præbrachial transverse, and by full half its length from the border. Abdomen a little longer than the thorax. Legs pubescent, slightly bristly. *Male*. Abdomen linear. *Fem.* Abdomen fusiform.

These flies generally inhabit woods.

a. Wings unspotted.

♂. Wings bordered with white.—*Chatocera*, Desv. Species 1.

♂♂. Wings brown. Species 2.

♂♂♂. Wings grey.—*Dyctia*, Desv. Species 3–5.

a a. Wings spotted.—*Pherbellia*, Desv. Species 6.

1. **albo-costata**, Fal. Sciom. 12. 3 (1820); Meig.; Mcq.; Zett. Testacea, cano-tomentosa, antennis luteis, thorace fusco-quadrivittato, alis cinereis albo-marginatis, pedibus anticis albis. Long. 2–2½; alar. 4–5 lin.

Testaceous, with hoary tomentum. Head pale-yellow; frontalia red. Antennæ luteous. Thorax with four brownish stripes. Wings grey, white in front and behind; discal transverse vein nearly straight, slightly oblique, parted by more than twice its length from the præbrachial transverse, and by more than half its length from the border. Fore legs black.

Not rare. (E. S. I.)

2. **fuscipennis**, Meig. Zw. vi. 16. 15 (1830); Mcq.; Zett. Ferruginea, antennis luteis, thorace fusco-quadrivittato, alis fuscis, pedibus fulvis, tibiis anticis tarsisque fusciscentibus. Long. 2–3; alar. 4–6 lin.

Ferruginous. Head whitish-yellow beneath; frontalia bright tawny. Antennæ luteous; sixth joint black. Thorax with four brownish stripes. Wings brown, darker in front except at the base; discal transverse vein very slightly undulating, nearly upright, parted by much more than its length from the præbrachial transverse, and by more than half its length from the border. Halteres testaceous. Legs tawny; tarsi and fore tibiæ brownish.

Not common. Inhabits woods. (E. S.)

3. **obtusa**, Fal. Sciom. 13. 4 (1820); Meig.; Mcq.; Zett. *Fulva*, antennarum articulo tertio nigro, thorace fusco-quadrivittato, alis subcinereis, tibiis tarsisque nigricantibus. Long. 2–3; alar. 4–6 lin.

*Tawny*. Head bright-yellow in front, whitish-yellow beneath; proboscis ferruginous; palpi yellow. Antennæ tawny; third joint black, tawny towards the base; sixth black. Disc of the thorax with grey tomentum, and with four brownish stripes. Wings slightly greyish,

darker at the tips; discal transverse vein straight, very slightly oblique, parted by less than twice its length from the præbrachial transverse. Halteres testaceous. Fore tibiæ, fore tarsi, and tips of the posterior tarsi blackish.

Not rare. (E.)

4. **cinerella**, Fal. Sciom. 14. 8 (1820); Meig.; Mcq.; Zett. *Cana*, vertice flavo, *antennis piceis*, *thoracis disco fusco*, alis fusco-cinereis, abdomine cinereo, pedibus fulvis, anticis piceis. Long.  $2-2\frac{1}{2}$ ; alar. 4-5 lin.

*Hoary*. Head whitish beneath; vertex bright-yellow, with a brown middle stripe, and with a brown spot on each side in front; proboscis ferruginous. *Antennæ piceous*. *Disc of the thorax brown*. Wings grey, brownish in front and in the discs of the areolets; transverse veins clouded with brown; discal transverse nearly straight, slightly oblique, parted by less than twice its length from the præbrachial transverse, and by full half its length from the border. Halteres whitish. Abdomen cinereous. Legs tawny; fore legs mostly piceous.

Generally distributed. (E. S. I.)

5. **nana**, Fal. Sciom. 15. 12 (1820); Meig.; Zett. *Fusca*, canotomentosa, capite flavo, *antennis fulvis*, *thorace fusco-quadrivittato*, alis fusco-cinereis, abdominis segmentis testaceo-marginatis, pedibus fulvis anticis fusciscentibus. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

*Brown*, with hoary tomentum. Head yellow, white beneath. *Antennæ tawny*. *Thorax with four brown stripes*. Wings grey, brownish in front, and with a diffuse brownish band near the tip; transverse veins clouded with brown; discal transverse slightly curved outward, parted by much more than its length from the præbrachial, and by more than half its length from the border. Halteres and hind borders of abdominal segments testaceous. Legs dull tawny; fore legs brownish.

Not common. (E. I.)

6. **monilis**, Meig. Zw. vi. 17. 18 (1830); Mcq.; Zett. *Cinerea*, capite flavo, *antennis ferrugineis*, *thoracis lateribus et abdominis segmentorum marginibus testaceis*, alis subcinereis fusco-guttatis, pedibus fulvis. Long. 2; alar. 4 lin.

Cinereous. Head yellow, white about the orbits of the eyes; vertex with ferruginous streaks; proboscis ferruginous; palpi tawny. *Antennæ ferruginous*; third joint darker towards the tip; sixth black. *Thorax mostly testaceous on each side*. Wings slightly grey, with rows of brown dots between the longitudinal veins; discal transverse vein almost straight, slightly oblique, parted by nearly twice its length from the præbrachial transverse, and by full half its length from the border. Halteres pale testaceous. Hind borders of abdominal segments testaceous. Legs dull tawny.

Not common. (E. I.)

The following additional species of *Sciomyza* have been recorded as British :—

- |                            |                            |
|----------------------------|----------------------------|
| 1. simplex, <i>Fal.</i>    | 4. notata, <i>Meig.</i>    |
| 2. glabricula, <i>Fal.</i> | 5. nigrimana, <i>Meig.</i> |
| 3. griseola, <i>Fal.</i>   |                            |

### Genus VII. **HELOMYZA.**

HELOMYZA, Hal. Westw. Class. 1. 145 (1839). *Musca* p., F.; Schr. *Helomyza* p., Fal.; Meig.; Mcq.

Corpus oblongum, subsetosum. *Antennarum articulus tertius conicus, secundo duplo longior; arista plumosa. Alæ mediocres; vena costali spinosa.*

Body oblong, with a few bristles. Front flat; face nearly vertical; sides of the peristoma slightly projecting. *Antennæ* nearly reaching the epistoma; *third joint conical, about twice the length of the second; sixth* slender, *plumose with long hairs or pubescent.* Thorax elliptical. *Wings moderately long; costal vein armed with short spines, ending on the hind border near the tip; subcostal ending before one-third of the length; mediastinal ending much before half the length; radial ending at about seven-eighths of the length; cubital and præbrachial slightly diverging between the transverse veins, nearly parallel from the discal transverse to the border.* Legs hairy, with a few bristles. *Male.* Abdomen linear. *Fem.* Abdomen long-obconical.

1. **rufa**, Fal. Helom. 4. 2 (1820); Meig.; Mcq.; Zett. Fulva, capite flavo, *arista plumosa*, thorace ferrugineo-bivittato, *alis cinereis fusco-variis maculisque duabus connexis apicalibus albidis*, abdomine nigro-fasciato, pedibus testaceis. Long.  $2\frac{1}{3}$ ; alar. 5 lin.

Tawny. Head yellow, whitish, testaceous in front and beneath. *Antennæ* tawny; *sixth joint black, plumose.* Thorax with two ferruginous stripes. Pectus testaceous. Scutellum flat, blackish at the base. *Wings grey, brown towards the tips, where are two whitish connected spots; transverse veins clouded with brown; discal transverse slightly oblique, nearly straight, parted by twice its length from the præbrachial transverse, and by a little less than its length from the border.* Halteres and legs testaceous. Abdomen with blackish connected bands on the hind borders of the segments.

Generally distributed. (E. S. I.)

2. **flava**, Meig. Zṽ. 6. 50. 3 (1830). Fulva, *arista plumosa, thoracis disco cinereo, alis subcinereis, strigis discalibus obscurioribus maculisque tribus apicalibus fuscis, venis transversis nebulosis.* Long. 3; alar. 6 lin.

Tawny. Head yellow beneath, with white tomentum about the eyes.

Antennæ tawny; sixth joint black, plumose. Disc of the thorax grey. Wings greyish, with darker streaks between the veins; tips of the radial, cubital, and præbrachial veins slightly clouded with brown; transverse veins clouded with dark brown; discal transverse oblique, almost straight, parted by nearly twice its length from the præbrachial transverse, and by full half its length from the border.

Not rare. (E.)

3. **pallida**, Fal. Helom. 3. 1 (1820); Meig.; Zett. Testacea, arista pubescente, thoracis disco fulvo, alis flavo-subcinereis, abdomine fusco-fasciato. Long. 3; alar. 6 lin.

Testaceous. Third joint of the antennæ short-conical, about twice the length of the second; sixth black, pubescent. Disc of the thorax tawny. Wings slightly grey, with a yellowish tinge in front. Halteres pale testaceous. Abdomen with a narrow brown band on the hind border of each segment. Tarsi with brown tips.

Not common. (E.)

#### Genus VIII. **LERIA**.

LERIA, Desv. E. M. (1830). *Musca* p., L.; F.; D. G.; Schr.; Gmel. *Helomyza* p., Fal.; Meig.; Zett. *Blephariptera*, Mcq.

Corpus oblongum, subsetosum. Antennæ brevissimæ; articulus tertius rotundus, secundo paullo longior; arista nuda. Alæ mediocres, costa spinosa.

Body oblong, slightly bristly. Head slightly produced; front flat; face oblique. Epistoma and sides of the peristoma rather prominent. Proboscis short. Palpi nearly filiform. Antennæ very short; third joint round, a little longer than the second; fourth and fifth indistinct or obsolete; sixth long, slender, bare. Thorax elliptical; transverse furrow indistinct. Wings moderately long; costal vein armed with short spines, ending on the hind border at some distance from the tip; subcostal vein ending at before one-third of the length of the wing; mediastinal ending at before half the length; cubital and præbrachial very slightly diverging between the transverse veins, nearly parallel from the discal transverse to the border. Abdomen long-obconical. Legs slender, pubescent, with a few bristles. Fem. Oviduct exserted.

1. **serrata**, L. Fn. 1847 (1761); F.; Schr.; Gmel.; Fal.; Meig.; Mcq.; Zett.—*latrinarum*, D. G. Ferruginea, capite pallido, thorace cinereo vittis duabus obscurioribus, alis limpidis, pedibus testaceis. Long. 2-3; alar. 4-6 lin.

Ferruginous. Head luteous above, whitish-testaceous beneath. Antennæ ferruginous; sixth joint black. Thorax with grey tomentum, and with two darker dorsal stripes. Wings limpid; discal transverse



vein upright, hardly curved inward, parted by twice its length from the præbrachial transverse, and by half its length from the border. Halteres very pale yellow. Legs testaceous.

Generally distributed. (E. S. I.)

The following additional species of the two preceding genera have been recorded as British:—

- |                             |                               |
|-----------------------------|-------------------------------|
| 1. olens, <i>Meig.</i>      | 8. fenestralis, <i>Fal.</i>   |
| 2. affinis, <i>Meig.</i>    | 9. rufiventris, <i>Meig.</i>  |
| 3. præusta, <i>Meig.</i>    | 10. inscripta, <i>Meig.</i>   |
| 4. tigrina, <i>Meig.</i>    | 11. humilis, <i>Meig.</i>     |
| 5. griseola, <i>Meig.</i>   | 12. fuscipennis, <i>Meig.</i> |
| 6. suilloides, <i>Desv.</i> | 13. ruficornis, <i>Meig.</i>  |
| 7. villosa, <i>Meig.</i>    | 14. arenaria, <i>Hal.</i>     |

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Genus IX. **HETEROMYZA.**

HETEROMYZA, *Fal. Heterom.* 2 (1820); *Meig.*; *Mcq.*; *Zett.*

Corpus oblongum. *Antennarum articulus secundus brevis; tertius rotundus, secundo paullo longior. Alarum vena costalis spinis nullis.*

Body oblong. *Antennæ* not reaching the epistoma; second joint short; third round, a little longer than the second; costal vein armed with spines.

1. **flava**, *Meig. Zw. vi. 46. 2* (1830). Fulva, capite flavo, palpis testaceis apice fuscis, antennis fuscis basi subtusque flavis, alis sublimpidis, costa apice venaque discali transversa subfuscis, pedibus testaceis. Long. 3; alar. 6 lin.

Tawny. Head yellow. Palpi testaceous, with brown tips. *Antennæ* tawny; third joint brown above; sixth black, very minutely pubescent. Wings nearly limpid, clouded with brown in front, at the tips, and about the discal transverse vein; cubital and præbrachial veins slightly diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse vein indistinctly undulating, almost upright, parted by nearly twice its length from the præbrachial transverse and from the border. Halteres and legs testaceous.

Not common. (S.)

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Genus X. **DRYOMYZA.**

DRYOMYZA, *Fal. Sciom.* 16 (1820); *Meig.*; *Mcq.*; *Zett. Dryope*, *Desv.*

Corpus elongatum, sublineare, nitens, breve. *Antennarum articulus*

*tertius subconicus, secundo duplo longior; arista pubescens. Alæ longæ. Pedes validi, pilosi.*

Body smooth, shining, elongate, nearly linear, with a few hairs and bristles. Frontalia broad; face oblique; facialia without bristles; epistoma very prominent. Eyes bare. Proboscis thick, short. Palpi linear. *Antennæ* not reaching the epistoma; *third joint nearly conical, full twice the length of the second*; arista pubescent along the whole length, more than thrice the length of the third joint. Thorax subfusiform. *Wings long*; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal vein ending at about one-third of the length of the wing; mediastinal vein ending at far beyond half the length; radial vein ending at about seven-eighths of the length of the costa; cubital vein ending at the tip of the wing; cubital and præbrachial veins very slightly diverging from the præbrachial transverse, very slightly converging from thence to the border; discal transverse nearly straight, very slightly oblique, parted by very much more than its length from the præbrachial transverse, and by full half its length from the border. Pobrachial and anal areolets rather long. Abdomen longer than the thorax. Legs stout, hairy. *Male.* Abdomen nearly linear. *Fem.* Abdomen fusiform.

The species inhabit shady woods.

1. **flaveola**, F. E. S. iv. 343. 130 (1792); Meig.; Mcq.; Zett. Fulva vel testacea, *arista subpubescente*, thorace nonnunquam quadrivittato, *alis sublimpidis*, abdomine nonnunquam fusco. Long. 3-5; alar. 8-12 lin.

Tawny or testaceous. Head pale testaceous beneath. Frontalia bright tawny. Third joint of the antennæ brown towards the tip; *arista* black, *thinly and minutely pubescent*. Thorax occasionally with four very indistinct darker stripes. *Wings nearly limpid*; discal transverse vein parted by twice its length from the præbrachial transverse. Tarsi brown towards the tips. *Var.* Abdomen brown; tip tawny.

Generally distributed. (E. S. I.)

2. **præusta**, Meig. Zw. v. 257. 3 (1826); Mcq.; Zett. Fulva, *antennis luteis*, thorace fusco-subquadrivittato, *alis fulvo-subcinereis, venis longitudinalibus apice transversisque fusco-nebulosis*. Long. 3-5; alar. 8-12 lin.

Tawny. Head testaceous beneath. Frontalia luteous. Antennæ luteous; sixth joint black, tawny at the base. Thorax with four slight brownish stripes. *Wings greyish, tawny in front and at the base; transverse veins and tips of longitudinal veins clouded with brown.* Sutures of abdominal segments blackish.

Generally distributed. Mr. Spence informs me that he has reared it from truffles. (E. S. I.)

3. **anilis**, Fal. Sciom. 16. 2 (1820); Meig.; Zett. Testacea, *arista*

*pubescente*, thorace fulvo-quadrivittato, *alis limpidis*, *venis transversis infuscatiss*, *abdomine piloso*. Long.  $2\frac{1}{2}$ ; alar. 6 lin.

Testaceous. Head pale testaceous beneath. Frontalia bright-tawny. Antennæ tawny; *sixth joint black, with rather thick and long pubescence*. Thorax with four tawny stripes. *Wings limpid; transverse veins slightly clouded with brown*; cubital and præbrachial veins very slightly diverging from the præbrachial transverse to the discal transverse, parallel from thence to the border; discal transverse parted by rather less than twice its length from the præbrachial transverse, and by full half its length from the border. *Abdomen very hairy*. Tarsi brownish towards the tips.

Not common. (S.)

### Genus XI. **TETANOCERA.**

TETANOCERA, Dumr.; Latr. H. N. v. 21. 22 (1805); Fal.; Meig.; Mcq.; Zett.; Loew. *Musca* p., F. E. S.; Gmel.; Pz. *Scatophaga* p., F. S. A. *Volucella* p., Schr.; Schell.

Corpus oblongum, robustum. Frons depressa. Facies obliqua. Peristoma subproductum. *Antennæ porrectæ; articulus secundus longus; tertius conicus, secundo sæpe longior*. Pedes validi, pilosi.

Body oblong, stout. Head full as broad as the thorax. Front flat, rather prominent. Face oblique. Epistoma not prominent. Peristoma slightly produced. Proboscis thick. Palpi filiform. *Antennæ porrect; second joint long; third conical, longer or very rarely shorter than the second*. Wings moderately broad; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending at little beyond one-fourth of the length; mediastinal ending at much before half the length; radial ending at beyond five-sixths of the length; cubital very slightly diverging from the præbrachial between the transverse veins, parallel to it from the discal transverse to the border; discal transverse parted by much more than its length from the præbrachial transverse, and by about half its length or less from the border. Abdomen a little longer than the thorax. *Legs stout, hairy, with a few bristles*. *Male*. Abdomen nearly linear. *Fem*. Abdomen subfusiform.

Most of the species frequent aquatic plants, and their larvæ live in the water.

a. Arista pubescent.

♂. Third joint of the antennæ shorter than the second. Species 1, 2.

♂♂. Second and third joints of the antennæ of equal length. Sp. 3.

♂♂♂. Third joint of the antennæ longer than the second. Sp. 4, 5.

a a. Arista plumose with short hairs. Species 6.

a a a. Arista plumose with long hairs. Species 7-11.

1. **marginata**, F. S. I. ii. 449. 74 (1781); Schr.; Pz. ! Fn. xxxii. 22; Meig.; Mcq.; Zett.; Locw.—*limbata*, Gmel.—*crinicornis*, Fal.; Schell. *Ferruginea, thorace fusco confertim guttato*, antennis pedibusque ferrugineis, alis fuscis confertim guttatis, abdomine tibiis apice tarsisque piccis. Long. 4–4½; alar. 8–9 lin.

*Ferruginous*, with cinereous tomentum. Head whitish-testaceous beneath, piceous about the ocelli, and with a deep black spot on each side of the front. Proboscis piceous. Palpi testaceous. Antennæ ferruginous, pilose; third joint much shorter than the second; arista testaceous, thickly pubescent. *Thorax thickly covered with very minute brown dots, and a few of larger size.* Scutellum with a brown stripe. Wings brown, with very numerous limpid dots; fore border blackish-brown; discal transverse vein curved outward, nearly upright, parted by less than twice its length from the præbrachial transverse, and by a little more than half its length from the border. Abdomen piceous. Legs ferruginous; femora, tarsi, and tips of tibiæ mostly piceous.

Not common. (E.)

2. **rufifrons**, F. S. I. ii. 449. 76 (1781); Gmel.; Latr.; Meig.; Mcq.; Zett.—*reticulata*, Fal. *Fulva, thorace quadrivittato*, alis cinereis confertim guttatis, abdomine nigro-vittato, tarsis fuscis. Long. 3–4; alar. 6–8 lin.

*Tawny*. Head testaceous, and with whitish tomentum beneath, a black dot about the ocelli, and another on each side of the front. Third joint of the antennæ shorter than the second; sixth stout, minutely pubescent. *Thorax with four indistinct darker stripes.* Wings grey, darkest in front, with very numerous limpid dots; disc limpid between the præbrachial transverse vein and the border; discal transverse vein oblique, slightly undulating, parted by nearly twice its length from the præbrachial transverse, and by more than half its length from the border. Abdomen with a blackish dorsal stripe. Tarsi brown.

Not rare. (E.)

3. **cucullaria**, L. S. N. ii. 995. 103 (1763); F.; Gmel.; Fal.; Meig.; Mcq.; Zett.; Loew.—*rufa*, Pz. ! Fn. liv. 17.—*Sundewalli*, Fries. *Ferruginea, glauco-tomentosa, capite luteo, thorace subvittato, alis subcinereis, maculis nonnullis apices versus fuscis*, abdomine pedibusque fulvis. Long. 3½; alar. 7 lin.

*Ferruginous*. Head luteous, with a ferruginous stripe, and on each side with brown spots, underside testaceous. Proboscis ferruginous. Palpi whitish. Antennæ ferruginous; second and third joints of equal length; sixth whitish, minutely pubescent, testaceous at the base. *Thorax with glaucous tomentum, indistinctly striped.* Wings greyish, here and there almost limpid, and with a few pale brown spots towards the tip; præbrachial transverse and each end of the discal transverse clouded with brown; discal transverse oblique, very deeply angular, parted by more than its length from the præbrachial transverse, and by

*much less than half its length from the border.* Halteres testaceous. Hind femora rather thick, armed with spines beneath. *Var.* Thorax without glaucous tomentum. Wings lurid.

Not rare. (E.)

4. **lineata**, Fal. Sciom. 11. 14 (1820); Meig.; Mcq.; Zett.; Loew. Ferruginea, cano-tomentosa, capite antennis *thoracisque vittis quinque testaceis*, alis albidis fusco-nebulosis.

Ferruginous, with hoary tomentum. Head testaceous, with a brown spot on each side of the front, whitish beneath. Proboscis tawny. Palpi testaceous. Antennæ testaceous; second joint black above; third black at the tip, hardly longer than the second; sixth whitish, minutely pubescent. *Thorax with three slender testaceous stripes on the disc, and a broad one on each side.* Wings dingy-whitish; discs of the areolets slightly and partly clouded; transverse veins clouded; *discal transverse oblique, very deeply undulating, parted by very much more than its length from the præbrachial transverse, and by more than half its length from the border.* Halteres testaceous. Abdomen and legs tawny, the former with a brownish dorsal stripe.

Not common. (E. I.)

5. **aratoria**, F. E. S. iv. 344. 132 (1792); Meig.; Mcq.; Zett.; Loew.—*interstincta*, Fal. Ferruginea, albido-tomentosa, capite fusco-maculato, antennis abdomine pedibusque fulvis, *thorace quadrivittato, alis fulvis fusco-quinquemaculatis*. Long.  $2\frac{1}{2}$ –4; alar. 5–8 lin.

Ferruginous, with whitish tomentum. Head luteous, with brown spots on each side of the vertex, pale testaceous beneath. Proboscis ferruginous. Palpi testaceous. Antennæ tawny; third joint a little longer than the second; sixth testaceous, minutely pubescent. *Thorax with four ferruginous stripes.* Wings tawny, with darker streaks between the veins, and *with five brown spots*, one on each side of the discal transverse along the præbrachial, one at each end of the discal transverse, and one on the præbrachial transverse; *discal transverse very oblique and very deeply undulating, parted by very much more than its length from the præbrachial transverse, and by nearly half its length from the border.* Halteres pale testaceous. Abdomen and legs tawny.

Not rare. (E. I.)

6. **reticulata**, F. S. I. ii. 450. 77 (1781); Gmel.; Latr.; Meig.; Mcq.; Zett.; Loew.—*obsoleta*, Fal. Fulva, albido-tomentosa, thorace quadrivittato, alis subhyalinis maculis plurimis transversis fuscis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Tawny. Head and thorax with whitish tomentum. Head whitish beneath. Frontalia, proboscis, and palpi testaceous. *Third joint of the antennæ hardly longer than the second; sixth plumose with short hairs.* Thorax with four tawny stripes. Wings nearly hyaline, *with numerous transverse brown spots between the longitudinal veins*, greyish towards the hind border; discal transverse vein undulating, oblique,

parted by more than its length from the præbrachial transverse, and by hardly half its length from the border. Halteres testaceous. Tarsi brownish.

Not rare. (E.)

7. **punctata**, F. E. S. iv. 347. 147 (1794); Meig.; Mcq.; Zett.; Loew. Ferruginea, thorace subvittato, *alis cinereis, guttis plurimis apud venas fuscis*, pedibus fulvis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Ferruginous. Head yellow, pale testaceous, with white tomentum beneath. Palpi yellow, clavate, with ferruginous tips. *Antennæ* ferruginous; *third joint much longer than the second*; sixth black, with long hairs. Thorax with indistinct darker stripes. *Wings grey, with numerous brown dots along the veins*; transverse veins clouded; discal transverse vein oblique, undulating, parted by much more than its length from the præbrachial transverse, and by more than half its length from the border. Halteres testaceous. Legs tawny.

Not common. (E.)

8. **umbrarum**, L. Fn. 1864 (1761); Fal.; Meig.; Zett.—*gemmata*, Ahrens. Ferruginea, capite flavo fusco-guttato, antennis ferrugineis, thoracis disco fusco lateribus testaceo-guttatis, *alis fuscis limbo-guttatis*, abdomine fusco, pedibus fulvis fusco-variis. Long. 2; alar. 4 lin.

Ferruginous. Head yellow; front with brown dots; face white, shining. *Antennæ* ferruginous; *third joint longer than the second*; sixth black, with long hairs. Thorax with testaceous dots on each side; disc brown. *Wings brown, darkest along the costa, thickly covered with limpid dots*; discal transverse vein very slightly oblique, very slightly curved outward, parted by full twice its length from the præbrachial transverse, and by half its length from the border. Halteres pale testaceous. Abdomen brown. Legs tawny; femora with brown bands; tips of the tibiæ and of the tarsi brown.

Not common. (E. I.)

9. **ferruginea**, Fal. Sciom. 9. 9 (1820); Meig.; Mcq.; Zett.; Loew. Testacea, antennis luteis, thorace ferrugineo-quadrivittato, *alis subfulvis strigis obscurioribus*, venis transversis infuscatis, abdomine pedibusque fulvis. Long.  $2\frac{1}{2}$ – $3\frac{1}{2}$ ; alar. 5–7 lin.

Testaceous. Head luteous, whitish beneath. Proboscis ferruginous. Palpi whitish. *Antennæ* luteous; *third joint longer than the second*; sixth black, with long hairs. Thorax with four ferruginous stripes. *Wings slightly tawny, with indistinct darker streaks between the veins, and frequently clouded with brown along the costa*; transverse veins clouded with brown; discal transverse oblique, almost straight or slightly curved outward, parted by nearly half its length from the præbrachial transverse, and by nearly twice its length from the border. Halteres pale testaceous. Abdomen and legs tawny.

Generally distributed. (E. S. I.)

10. **Hieracii**, F. E. S. iv. 361. 201 (1794); Meig.; Mcq.—*Argus*, F.—*nemorum*, Fal.; Zett. Testacea, thorace ferrugineo-maculato, *alis nigro-fuscis e guttis limpidis trifasciatis*, abdomine fusco-albido fasciato. Long. 2; alar. 4 lin.

Testaceous, with white tomentum beneath. Head white beneath. Proboscis tawny. Palpi whitish. *Third joint of the antennæ a little longer than the second*; sixth black, with long hairs, testaceous towards the base. *Thorax with ferruginous spots. Wings blackish-brown, with numerous limpid dots, which form three irregular bands*; discal transverse vein slightly oblique, very slightly undulating, parted by much more than half its length from the præbrachial transverse, and by a little less than half its length from the border. Halteres whitish. Abdomen brown, with whitish interrupted bands on the hind borders of the segments. Legs pale testaceous.

Generally distributed. (E. S. I.)

11. **sylvatica**, Meig. Zw. vi. 41. 15 (1830); Mcq.; Zett.; Loew.—*ferruginea* var. *minor*, Fal. Rufo-fulva, *antennis fulvis, articulo secundo vix elongato, alis subcinereis antice subflavis*, pedibus testaceis. Long. 3–3½; alar. 6–7 lin.

Reddish-tawny. Head testaceous beneath. *Antennæ tawny; second joint shorter than usual; third a little longer than the second; sixth black, very deeply plumose. Wings greyish, yellowish in front; transverse veins clouded*; discal transverse oblique, slightly curved outward, parted by more than twice its length from the præbrachial transverse, and by more than half its length from the border. Halteres and legs testaceous.

Not common. Inhabits woods. (E. I.)

The following additional species of *Tetanocera* have been recorded as British:—

- |                            |                            |
|----------------------------|----------------------------|
| 1. <i>chærophylli</i> , F. | 4. <i>arrogans</i> , Meig. |
| 2. <i>pratorem</i> , Fal.  | 5. <i>elata</i> , F.       |
| 3. <i>obliterata</i> , F.  | 6. <i>dorsalis</i> , F.    |

## Genus XII. SEPEDON.

SEPEDON, Latr. G. C. iv. 350 (1809); Fal.; Meig.; Mcq.; Zett. *Syrphus* p., F. *Mulio* p., F.; Schell.; Pz. *Baccha* p., F. *Scatophaga* p., F. *Musca* p., Schr.; Gmel.; Pz.

Corpus angustum. Frons depressa. Facies obliqua. *Peristoma valde productum. Antennæ longæ; articulus tertius secundo brevior. Pedes sat longi; femora postica subincrassata, subtus spinosa; tibiæ posticæ subarcuatae.*

Body narrow, slightly pubescent, with very few bristles. Front de-

pressed. Face oblique. Epistoma prominent. *Peristoma much produced, like a short beak.* Proboscis short; labella broad. Palpi almost filiform. *Antennæ long; third joint elongate-conic, convex above, shorter than the second; sixth setiform, stout, bare.* Thorax elongate-subquadrate, with no transverse furrow. Wings moderate; costal vein ending on the hind border very near the tip of the wing; subcostal ending at about one-third of the length; mediastinal ending before half the length; radial ending a little beyond five-sixths of the length; cubital and præbrachial very slightly diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse slightly oblique, curved outward, parted by twice its length from the præbrachial transverse, and by half its length from the border. Abdomen subfusiform, longer than the thorax. *Legs rather long; hind femora slightly incrassated, armed beneath with spines; hind tibiae slightly curved.*

These flies inhabit aquatic plants.

1. **sphegeus**, F. S. I. ii. 429. 40 (1781); Gmel.; Pz. ! Fn. lxx. 21; Fal.; Meig.; Mcq.; Zett.—*rufipes*, F.; Pz. ! Fn. lx. 13.—*dentipes*, Schell.—*flavipes*, Schr.—*palustris*, Latr. *Nigra*, glauco-tomentosa, thorace quadrivittato, alis cinereis, pedibus rufis, tarsis fuscis. Long. 4; alar. 8 lin.

*Black, shining, slightly metallic, with glaucous tomentum. Second joint of the antennæ much longer than the third; sixth white towards the tip. Thorax with four black stripes. Wings grey, with a lurid tinge in front and along the borders of the veins. Halteres red, with a whitish band. Legs bright red; tarsi brown.*

Generally distributed. (E. S. I.)

2. **Hæffneri**, Fal. Sciom. 3. 21 (1820); Meig.; Mcq.; Zett. *Ferruginea*, albido-tomentosa, thorace sexvittato, alis subluridis. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

*Ferruginous, with whitish tomentum. Third joint of the antennæ a little shorter than the second, brown towards the tip; sixth white towards the tip. Thorax with six ferruginous stripes. Wings slightly lurid, almost limpid towards the hind border. Halteres testaceous.*

Less common than the preceding species. (E. I.)

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### Genus XIII. DORYCERA.

DORYCERA, Hoffm.; Meig. Zw. vi. 29 (1830); Mcq.; Zett. *Musca* p., F. E. S. *Scatophaga* p., F. S. A. *Tetanocera* p., Latr.; Coqueb.—Geoff.

Corpus angustum, lineare. *Caput longum. Frons porrecta, conica, depressa. Facies valde obliqua. Antennæ porrectæ; articulus tertius secundo brevior; arista basi incrassata et subangulata.*



Body narrow, linear, pubescent, with a few bristles. *Head long. Front porrect, conical, depressed. Face very oblique.* Epistoma and peristoma not prominent. *Antennæ porrect; third joint elongate-conical, shorter than the second; sixth setiform, bare, incrassated and slightly bent towards the base.* Thorax elongate-subquadrate. Wings rather short; costal vein ending on the hind border near the tip of the wing; subcostal ending at much beyond one-third of the length; mediastinal ending at much beyond half the length; radial ending at beyond seven-eighths of the length; cubital and præbrachial very slightly diverging between the transverse veins, and very slightly converging from the discal transverse to the tip; discal transverse straight, nearly upright, parted by nearly twice its length from the præbrachial transverse, and by less than half its length from the border. Abdomen linear, longer than the thorax. Legs pubescent; femora with very few bristles.

1. **graminum**, F. E. S. iv. 346. 143 (1781); Latr.; Coqueb.; Meig.! Zw. vi. pl. 57. f. 5; Mcq.; Zett.—Geoff. Nigra, cinereo-tomentosa, capite pallido, thorace quadrivittato, alis albis fusco variis, abdomine univittato, pedibus fulvis. Long. 3; alar.  $5\frac{1}{2}$  lin.

Dull-black, with cinereous tomentum. Head testaceous beneath, white about the eyes. Front luteous, ferruginous on each side. Thorax with four black stripes, outer pair dilated in front. Wings whitish, partly brown in front and towards the tips; transverse veins clouded with brown. Halteres pale yellow. Abdomen with a cinereous stripe. Legs tawny; tarsi brown towards the tips.

Not common, but appearing occasionally in profusion. (E.)

The following additional species of this family have been recorded as British:—

| TETANOPS, <i>Fal.</i>           | LUCINA, <i>Meig.</i>              | EURINA, <i>Meig.</i>            |
|---------------------------------|-----------------------------------|---------------------------------|
| 1. <i>myopina</i> , <i>Fal.</i> | 1. <i>fasciata</i> , <i>Meig.</i> | 1. <i>lurida</i> , <i>Meig.</i> |

## SUBFAMILY 2. BORBORIDES.

BORBORIDES, Hal.; Westw. Cl. 1. 144 (1839). *Borborus*, Meig. *Sphærocera*, Latr. *Copromyza* p., *Fal.* *Putrellideæ* p., Desv. *Sphæroceridæ*, Mcq.; Hal. E. M. *Copromyzinæ*, Zett.

*Antennarum articulus tertius sphæroideus; arista dorsalis, elongata, gracillima. Alarum vena subcostalis vix costæ trientem pertingens. Alula fere nullæ. Metatarsus posticus dilatatus, articulo secundo brevior.*

Front broad, subquadrate, a little inclined. Orbits, frontalia, and stemmatic triangle usually distinguished. Face broad, impressed, membranaceous. Epistoma prominent, bearing bristles at the corners. Clypeus exserted, transverse. Peristoma very large, rounded. Labium thick, fleshy; below with a broad bellying sheath of horny consistence,

and hairy. Labella round, obliquely striate. Labrum short. Tongue obsolete. Maxillæ with a small linear and hairy lobe disengaged from the tip. Palpi linear, bristly. Eyes round. *Antennæ* rather distant, short, slightly deflected; first joint very small; second as long as the third; *third transversely spheroidal, obliquely compressed; arista dorsal, long and slender, with only two joints apparent.* Thorax rather depressed. Wings in repose lying flat on the back; *subcostal vein short; axillary lobe rather large. Alulæ extremely small, the lower valve disappearing.* Abdomen depressed, oblong; in the male with six visible segments, the penultimate being withdrawn; in the female with five segments, the remainder being very small, tubular and internal; sometimes less than five, from some being indistinct. *Legs* long, formed for running or leaping; *hind metatarsus dilated, shorter than the second joint.* Onychia distinct, feathery.

The larvæ feed on decaying substances, and many of the species are excessively abundant. The genera may be grouped thus:—

|        |   |   |   |                 |                 |
|--------|---|---|---|-----------------|-----------------|
| Arista | { | with the basal joint scarcely distinct                            | { | bare . . .      | 1. SPHÆROCERA.  |
|        |   |   | { | pubescent . .   | 2. BORBORUS.    |
|        | { | jointed at the base. Discal transverse vein of the wing . . . . . | { | perpendicular . | 3. LIMOSINA.    |
|        |   |   | { | oblique . . .   | 4. HETEROPTERA. |

### Genus I. **SPHÆROCERA.**

SPHÆROCERA, Mcq. D. ii. 564. 11 (1835); Hal. *Musca* p., F. *Calobata* p., F. *Rhagio* p., Schr. *Borborus* A b, Meig. *Lordatia* et *Coprina*, Desv. *Copromyza* p., Zett.

*Frons et scutellum setis experta. Arista glabra, quasi exarticulata. Vena discalis transversa ab alæ margine remota. Areola analis completa.*

*Front* much produced, flat, *without long bristles.* Face very short, concave. *Antennæ* reposing in deep lateral cavities. *Arista* bare, the first joint very minute. *Thorax* with very protuberant callosities, the suture before the wings deep, the sides of the metathorax angular. *Discal transverse vein distant by its own length from the border; pobra-chial vein continued beyond it; præbrachial vein* approaching the cubital, at the tip of the wing, by a gentle curve; *anal areolet and the small one before it complete.* Abdomen broad, very flat, margined, the first segment almost concealed. Middle tibiæ without lateral bristles, hind pair ending in a curved spur; hind metatarsus very much dilated.

a. Thorax and scutellum with a number of minute points, which are disposed in distant lines on the former, and scattered over the latter.

Species 1, 2.

*a a.* Thorax and scutellum granulated, the margin of the latter denticulate. Species 3-5.

1. **subsultans**, F. Sp. I. ii. 444. 1 (1781); Schr.; Fal.; Meig.; Mcq.; Hal.; Zett.—*curvipes*, Latr.—*merdarum*, *stercoraria*, *cadaverina*, et *necrophaga*, Desv. *Abdominis segmento secundo prægrandi, pedibus posticis elongatis incrassatis; Mas, femoribus clavatis.* Long.  $1\frac{1}{2}$ – $2\frac{1}{2}$ ; alar. 3–4 lin.

Rather dull-black, with faint lines on the thorax; frontal triangle more glossy. Wings yellowish-hyaline, often with brown streaks between the veins. Halteres dingy-white. *Abdomen very broad, the second segment appearing very large, as the third is confounded with it; the rest small, and gradually narrower.* Coxæ and base of the tibiæ rust-brown. *Hind legs very long, with thick femora and tibiæ; spur strong; hind femora of the male still more thickened.* Var. Posterior legs testaceous, with dusky knees and tarsi.

Generally distributed. (E. S. I.)

2. **monilis**, Hal. E. M. iii. 319. 2 (1836). *Pedibus simplicibus, annulo tarsorum anticorum albo.* Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Head and thorax as in *S. subsultans*. Abdomen, in the female particularly, broader than the thorax; second, third, and fourth segments nearly equal; fifth small. *Hind legs scarcely thicker in the male than in the female; fore tarsi rather thick, with the end of the first joint and the entire second white.*

Not common. In Mr. Haliday's collection. (E.)

3. **denticulata**, Meig. Zw. vi. 200. 3 (1830); Mcq.; Hal.—*bovina*, Desv. *Capite thoraceque nigris, femoribus posticis maris parum incrassatis.* Long.  $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$ – $2\frac{3}{4}$  lin.

Dull-black. Arista blackish. Thorax and scutellum shagreened and set with minute points, the former with two impressed smooth lines, the margin of the latter with a number of sharp teeth. Wings hyaline, with brownish veins of a dusky tinge, with the costal vein blackish. Halteres whitish. Abdomen as in *S. monilis*. Coxæ and knees brown; *hind femora of the male a little thickened, of the female slender.* Var. Legs testaceous; tarsi and tips of fore tibiæ dusky.

Common. (E. S. I.)

4. **vaporariorum**, Hal. E. M. iii. 319. 3 (1836).—*coprina*, Desv. *Capite thoraceque nigris, femoribus posticis maris clavatis, fem. parum incrassatis.* Long. 1; alar. 2 lin.

Resembles *S. denticulata*, but the hind femora of the male are nearly as large as in *S. subsultans*, and a little thickened in the female also. Thorax generally without impressed lines, but more irregularly and thinly shagreened about the middle than elsewhere. Abdomen attenuate behind. *Wings shorter than in S. denticulata, and hind metatarsus less dilated.*

Common. (E. I.)

5. **scabricula**, Hal. E. M. iii. 320. 5 (1836). *Castaneo-fusca*, abdomine nigro. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Head and thorax chestnut-brown, opaque, very thickly shagreened, and set with minute white points, lying flat. Head very long. Eyes small. Arista whitish. Teeth of the scutellum very short, decurved. Wings whitish-hyaline, with pale ferruginous veins, shorter than in S. denticulata; costal vein brown; rib finely ciliate. Abdomen black. Legs short, set with very minute whitish bristles, light brown; knees and tarsi paler; hind femora of the male not thickened; tarsi very short; hind metatarsus as long as the next three joints together.*

Rare. In Mr. Haliday's collection. (E.)

## Genus II. **BORBORUS.**

BORBORUS, A. C. et B., Meig. *Borborus* et *Apterina*, Mcq.; Hal. *Sphærocera*, *Nerea*, et *Mycetia*, Desv. *Copromyza* p., et *Limosina* p., Zett.

*Arista pubescens, quasi exarticulata. Frons et scutellum setigeræ. Areola analis completa. Vena discalis transversa alæ margini proxima.*

*Front less produced than in Sphærocera, some long bristles bordering the frontalia; face longer. Antennæ obliquely advanced; arista pubescent, the basal joint very minute. Thorax smooth; scutellum short, with a pair of bristles at the end. Anal areolet of the wing and the small one before it complete; transverse veins remote, the discal one being close to the border, and the pabrachial vein scarcely, if at all, continued beyond it; cubital and præbrachial veins not approaching.*

a. Wings and halteres developed.

b. Hind tibiæ armed with a spur.

c. Middle tibiæ bristly on the outer side. Species 1-3.

c c. Middle tibiæ hardly bristly on the outer side. Species 4-8.

b b. Hind tibiæ without spurs. Species 9.

a a. Wings and halteres rudimentary.—*Apterina*. Species 10.

1. **nitidus**, Meig. Zw. vi. 201. 4 (1830); Desv.; Mcq.; Hal. E. M. iii.; Zett.—*hamatus*, Hal. E. M. I.; Curt. *Niger*, *nitidus*, *halteribus albidis*, *alis ferrugineis*, *maris femoribus posticis basi uncinatis*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

*Shining-black. Frontalia dull-black. Palpi not dilated. Thorax with a brassy tinge. Wings rust-yellow; veins brown; transverse veins often darker. Halteres whitish. Segments of the abdomen nearly equal in length. Legs hairy; posterior coxæ, trochanters, and knees sometimes rust-brown; middle tibiæ with a row of long spines down the outside. Male. Abdomen with two filiform appendages beneath. Femora very thick; fore pair serrate below; hind pair longer, curved, armed at*

the base below with a hook, the small second spur of the hind tibiæ is twisted and angular, and catches on the hook. Fore metatarsus slightly unguiculate at the tip; first and second joints of hind tarsi covered below with yellow down, the latter thickened. *Fem.* Fore femora only thickened; hind femora with a tubercle instead of the hook; basal joints of the hind tarsi more slender than in the male.

Not common. (E. S. I.)

2. **suillorum**, Hal. E. M. iii. 322. 2 (1836).—*tibialis*, Desv.—*communis*, Desv.—*punctipennis*? Mcq. *Niger, nitidus, alis ferrugineis, venis transversis infuscatiss, halteribus albidis.* Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Very like *B. nitidus*, but the transverse veins of the wings are constantly suffused with brown; the bristles on the outside of the middle tibiæ are much finer; the legs more slender, the femora of the male unarmed, and only the fore pair thickened; the second joint of the hind tarsi is slender; the posterior coxæ, the trochanters and tarsi, and the extreme base of the tibiæ, are rust-brown, the fore and hind tarsi darker. *Var.* Tibiæ and tarsi ferruginous; end of the fore tibiæ and base of the fore and hind tarsi brown.

Not common. (E. I.)

3. **niger**, Meig. Zw. vi. 201. 6 (1830); Mcq.; Hal.; Zett. *Niger, opacus, villosus, alis hyalinis, halteribus fuscis.* Long.  $2\frac{1}{2}$ ; alar.  $4\frac{1}{2}$  lin.

*Dull-black, hairy.* Front with a glossy line. Arista thickly pubescent. Thorax slightly tinged with green. *Wings obscurely hyaline*; veins brown. *Halteres dusky.* Segments of the abdomen nearly equal; knees and tarsi dusky; fore femora thick, hairy; middle tibiæ with strong bristles or spines on the outside; second joint of the hind tarsi scarcely thickened. *Male.* Fore metatarsus unguiculate at the tip.

Not common. (E. I.)

4. **equinus**, Fal. Het. 6. 2 (1820); Meig.; Mcq.; Hal.; Zett.—*communis*, Desv.—*fuliginosa*, Desv.—*coprivora*? Desv. *Arista subnuda, abdominis segmento secundo maximo, tarsis posticis brevibus; Mas, metatarso antico inermi.* Long.  $1\frac{1}{2}$ – $2\frac{1}{2}$ ; alar. 3–5 lin.

*Arista with very thin and short pubescence. Second segment of the abdomen much larger than the third.* Hind tarsi short, broad. The characters of this species and of its larva are fully described by Mr. Haliday (*Ent. Mag.* iii. 323, 335).

Everywhere abundant. (E. S. I.)

5. **nigrifemoratus**? Mcq. D. ii. 567. 5 (1835); Hal. *Niger, nitidus, fronte pedibusque testaceis, arista subnuda, abdominis segmentis subæqualibus, femoribus anticis, in mare omnibus nigris, maris metatarso antico inermi.* Long. 2; alar. 4 lin.—*B. equinus* var.?

*Narrow margin of the front testaceous. Transverse veins of the wings more remote than in B. equinus; præbrachial transverse vein not reaching to one-third of the discal areolet; second and third segments of the*

*abdomen nearly equal in length.* Tibiæ and tarsi brown, base of the tarsi testaceous; *hind tarsi longer than in B. equinus.* *Male.* Glossy-black. *Var.* Posterior tibiæ and middle tarsi entirely testaceous.

Not common. (E.)

6. **flavipennis**, Hal. E. M. iii. 324. 6 (1836). *Fœm. Niger, facie coxis anticis et genubus testaceis, alis flavescentibus pallido-venosis, halteribus albidis.* Long.  $1\frac{1}{2}$ ; alar.  $2\frac{3}{4}$  lin.

Black. Frontalia dull; triangle glossy. Face and palpi testaceous. Thorax shining. *Wings yellowish; veins scarcely darker;* præbrachial transverse vein placed at about the first third of the discal areolet. Halteres whitish. Abdomen dull-black; second segment not longer than the third. Legs hairy; fore coxæ and the extreme base of the tibiæ rust-yellow. Resembles *B. longipennis*, but the transverse veins are much less distant, the fore and hind femora are thick, the hind metatarsus is almost triangular, the second very little longer.

Not common. (E.)

7. **longipennis**, Hal. E. M. iii. 324. 7 (1836). *Niger, alis pallido-venosis, venis transversis remotis, halteribus albidis, pedibus ferrugineis, femoribus et tibiæ apice fuscis.* Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Black, pubescent, with little gloss. Frontalia opaque. *Wings hyaline with pale veins; præbrachial transverse vein usually at the first fifth of the discal areolet.* Halteres whitish. Segments of the abdomen nearly equal; underside and sometimes the incisures pale. Legs hairy; second joint of the hind tarsi a little thickened, one-half longer than the first; the spur springs before the extremity of the hind tibiæ, and is very slender and long. *Male.* *Extremity of the abdomen hairy, but little thickened.* Legs pitchy-brown; fore coxæ, knees, and base of the tibiæ rust-brown; fore metatarsus very distinctly unguiculate. *Fem.* Legs rust-brown or rust-yellow; fore and hind tarsi, end of the tibiæ and of the posterior femora brown.

Common. (E. I.)

8. **vitripennis**, Meig. Zw. vi. 206. 20 (1833); Hal.; Zett. *Niger, alis hyalinis fusco-venosis, venis transversis remotis, halteribus albidis.* Long. 1; alar.  $2\frac{1}{2}$  lin.

Resembles *B. longipennis* in most characters. Entirely black. Frontalia very deep black, opaque. Triangle and thorax shining. Wing-veins more apparent; transverse veins scarcely so remote. Base of the halteres blackish. Abdomen of the male clavate and less hairy at the tip. Legs entirely black. *Var.* Legs less hairy and much longer; second joint of the hind tarsi not thickened.

Not common. Inhabits the sea-coast. (E. I.)

9. **ater**, Meig. Zw. vi. 203. 11 (1830); Hal.—*geniculatus*, Mcq.; Zett. *Niger, nitidus, glaber, fronte antice et genubus testaceis, halteribus albidis.* Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Glossy-black, nearly glabrous. Fore margin of the front and sides of the face testaceous. Frontalia almost bare, narrow, dull black. Arista very slightly pubescent. Scutellum flat, semicircular, with minute terminal bristles. Wings hyaline; veins brown; middle of the costal blackish; præbrachial transverse vein a little above the middle of the discal areolet. Segments of the abdomen nearly equal. Legs rather short, almost bare; fore femora thick and shining; extreme base of the tibiæ, in general also the fore coxæ and the base of the middle tarsi, pale testaceous; second joint of the hind tarsi not dilated. *Male*. Fore metatarsus not unguiculate.

Generally distributed. (E. S. I.)

10. **pedestris**, Meig. Zw. vi. 209. 30 (1830); Mcq.; Hal.; Zett. *Niger, opacus, alis halteribusque brevissimis*. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$  lin.

Dull-black, hairy. Arista pubescent. Scutellum very obtusely triangular. Wings shorter than the thorax; discal transverse vein falling on the margin, and forming a continuation of the costal vein. Halteres abortive, dusky. Abdomen of the male short, clavate; second segment very large, with a longitudinal line; following segments very short, the last large. Legs long, hairy; femora thick, especially the fore pair; hind tibiæ with a curved spur; second joint of the tarsi twice as long as the first, not thickened. *Male*. Fore metatarsus unguiculate.

Not common. (E.)

### Genus III. LIMOSINA.

LIMOSINA, Mcq. D. ii. 571 (1835); Hal.; Zett. *Borborus* A c, Meig. *Mycetia* et *Nerea*, Desv.

*Arista pubescens, basi geniculata. Areola analis incompleta. Venæ transversæ approximatae; venæ præbrachialis et pobrachialis abbreviatæ.*

Front bristly. Arista pubescent; first joint a little elongated. Scutellum large, flat, with long bristles. Costal vein of the wing often bristly at the base; *radial distant from the tip; præbrachial and pobrachial vanishing before the discal transverse vein, which is remote from the border; no anal areolet, nor any complete one above the discal*. Middle legs elongated, the tibiæ usually with lateral spines or bristles; no spur at the end of the hind tibia.

a. Antennæ obliquely porrect.

b. Disc of the scutellum smooth, bare.

c. Male having the fourth abdominal segment furnished at each angle with a long curved tuft of hair. Species 1.

c c. Fourth abdominal segment bare.

d. Halteres black, with a whitish head. Species 2, 3.

d d. Halteres of one colour, or paler at the base. Sp. 4–15.

- b b*. Scutellum with several bristles at the sides, and a few on the disc. Species 16.
- b b b*. Scutellum pubescent. Species 17, 18.
- a a*. Antennæ turned in opposite directions, lying close to the eyes. Scutellum glabrous, with four bristles.
- b*. Eyes bare.
- c*. Marginal areolet extending beyond the middle of the costa. Species 19, 20.
- c c*. Marginal areolet very small. Species 21.
- b b*. Eyes small, with minute erect hairs. Species 22.

1. **sylvatica**, Meig. Zw. vi. 207. 24 (1830); Mcq.; Hal.; Zett.—*claripennis*, Desv. Nigra, nitida, alis subhyalinis, halteribus fuscis. Long.  $1\frac{3}{4}$ ; alar.  $3\frac{1}{2}$  lin.

*Shining-black*. Frontalia dull blackish-brown. Face testaceous. Arista very delicately pubescent. Scutellum long, with two marginal and two apical bristles. *Wings hyaline or yellowish*; veins dusky; costal blackish, ciliate at the base; radial terminating half-way between the subcostal and the cubital, the latter a little sinuous, running to the tip of the wing; discal areolet longer than usual, with its posterior angle rounded. *Halteres blackish-brown*. Legs long, pubescent; spines of the middle tibiæ few and distant; second joint of the hind tarsi linear, not thickened, more than twice as long as the first. *Male*. Middle femora bearded, armed with a long spine at the base beneath; middle tibiæ with a pencil of hair within, about the middle; middle metatarsus compressed, hollowed out below, and bearded.

Abundant. (E. S. I.)

2. **limosa**, Fal. Het. 8. 6 (1820); Meig.; Mcq.; Hal.; Zett.—*riparia*, Desv. Nigra, scutelli setis bis quaternis, alis infuscatis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Dusky-black*. Front thickly set with bristles. Face short, brownish, very much elevated between the antennæ. Thorax often dull rusty-brown. Scutellum long, produced beyond the metathorax, with three bristles at each side and two at the tip. *Wings brownish*; costal vein bristly at the base; radial continued nearly to two-thirds of the interval between the subcostal and the cubital, the latter reaching the tip of the wing; discal transverse vein parted by about twice its length from the præbrachial transverse vein. Legs thinly hairy. Middle tibiæ thickly armed with spines; middle tarsi bristly; second joint of the hind tarsi linear, twice as long as the first.

Very abundant. (E. S. I.)

3. **humida**, Hal. E. M. iii. 328. 3 (1836). Nigra, facie albida, scutelli setis quaternis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Like *L. limosa*, but with much fewer and slighter bristles on every part; one only at each side of the scutellum, which is not so long. Face hoary.



Thorax with dull blue reflections. Wings obscure hyaline; base of the costal vein and legs simply pubescent. Abdomen with a glaucous tinge.

Not rare. (E. I.)

4. **arcuata**, Mcq. D. ii. 572. 4 (1835); Hal. *Nigra, scutelli setis bis quaternis, vena cubitali subarcuata, tibiis tarsisque ferruginosis*. Long.  $1-1\frac{1}{2}$ ; alar. 2-3 lin.

Like *L. limosa*; face less elevated. Wings obscure hyaline or brownish; veins rust-brown; costal bristly at the base; *radial extending over two-thirds of the interval between the subcostal and the cubital, the latter recurved, and terminating before the tip of the wing*; discal transverse vein parted by half again its length from the præbrachial transverse vein. Halteres dusky-red. *Fore coxæ, tibiæ at each end, and tarsi reddish-brown*.

Common. (E. S. I.)

5. **geniculata**, Mcq. ii. 572. 3 (1835); Hal. *Nigra, scutelli setis bis ternis, alis infuscatis, halteribus fuscis, coxis anticis genubus tarsisque ferruginosis*. Long. 1; alar. 2 lin.

Resembles *L. arcuata*, but the wings are as in *L. limosa*. *Scutellum with two bristles on each side*.

Rare. In Mr. Haliday's collection. (E. I.)

6. **crassimana**, Hal. E. M. iii. 328. 6 (1836).—*stercoraria*, Desv. *Nigra, alis infumatis, halteribus fuscis, tarsis crassis*; Mas, *tibiis anticis clavato-compressis*. Long.  $\frac{3}{4}$ -1; alar.  $2-2\frac{1}{3}$  lin.

Black. Front sometimes with a narrow reddish margin. Arista finely pubescent. Scutellum scarcely so long as the metathorax, with but four bristles, as in the nine following species. *Wings rarely hyaline, generally dusky*; veins darker; base of the costal ciliate with short hairs; radial ending nearer to the cubital than to the subcostal; discal transverse vein generally parted by half again its length from the præbrachial transverse vein. Halteres brown or blackish. Legs more pubescent than in any of the following species; bristles of the middle tibiæ scattered; tarsi thick. *Male. Fore tibiæ clavate, furrowed*; fore tarsi dilated; hind tarsi with two dilated joints.

Abundant. (E. S. I.)

7. **ochripes**, Meig. Zw. vi. 209. 29 (1830); Mcq.; Hal.; Zett. *Nigra, capite pedibusque rufis, tarsis posticis nigris*. Long.  $1-1\frac{1}{4}$ ; alar.  $2\frac{1}{4}-2\frac{3}{4}$  lin.

Black. *Head tawny-red*, a dot on the crown, and the occiput black. Antennæ sometimes red at the base. Arista very delicately pubescent. Scutellum shorter than the metathorax. Wings almost hyaline; veins pale; base of the costal pubescent; radial ending half-way between the subcostal and the cubital; discal transverse parted by nearly twice its length from the præbrachial transverse. Halteres whitish. *Legs pubescent, tawny*; hind tarsi, generally also fore tarsi and tips of fore

tibiæ, blackish; middle tibiæ with few bristles; second joint of hind tarsi linear, twice as long as the first.

Not rare. (E. I.)

8. **scutellaris**, Hal. E. M. iii. 329. 8 (1836). *Nigra, facie coxis genubusque testaceis, scutello aterrimo, halteribus albidis, tarsorum posteriorum articulis duobus incrassatis.* Long.  $\frac{3}{4}$ ; alar. 2 lin.

Like *L. ochripes*. Face and fore margin of the front pale testaceous. Thorax glossy-black. Scutellum elongate, opaque, deep black. Wings hyaline; veins pale-brown; costal darker; radial ending much further from the subcostal than from the cubital, which does not quite reach the tip of the wing. Halteres whitish. Abdomen dull-black. Tibiæ and tarsi dusky; fore coxæ, base of the tibiæ, often the entire of the middle tibiæ and tarsi testaceous or rust-brown; second joint of hind tarsi thickened, twice as long as the first.

Not common. (E. I.)

9. **nivalis**, Hal. E. M. i. 178 (1834). *Nigra, facie pedibusque ferruginosis, alis halteribusque abbreviatis.* Long. 1 lin.

Dusky-black. Face dull rust-colour. Arista finely pubescent. Scutellum shorter than the metathorax. Wings brownish, not extending to the end of the abdomen, sometimes very small. Halteres abortive, dusky; no præbrachial transverse vein. Legs pubescent, dull rust-colour; femora and often the middle of the posterior tibiæ dusky; second joint of hind tarsi not dilated.

Not rare. (I.)

10. **quisquilia**, Hal. E. M. iii. 330. 10 (1836). *Nigra, alis infumatis, halteribus fuscis; Mas, tibiis simplicibus.* Long. 1; alar.  $2\frac{1}{3}$  lin.

Like *L. crassimana*, but the tarsi are slender, and the fore tibiæ not clavate in the male. Scutellum longer and legs more pubescent than in most of the following species.

Rare. In Mr. Haliday's collection. (I.)

11. **fungicola**, Hal. E. M. iii. 330. 11 (1836). *Nigra, nitida, fronte opaca, alarum lineola costali nigra, halteribus nigris.* Long.  $\frac{3}{4}$ ; alar. 2 lin.

Glossy-black; pubescence very fine. Front opaque, deep black, with a glossy triangle. Face elevated between the antennæ, rather hoary. Wings ample, blackish, rarely hyaline; veins dusky, black from the subcostal to the radial, which extends scarcely half-way from the subcostal to the cubital; costal pubescent at the base; discal transverse parted by almost twice its length from the præbrachial transverse; submarginal areolet wider than usual.

Not rare. (E. I.)

12. **erratica**, Hal. E. M. iii. 330. 12 (1836). *Nigro-fusca, facie pedibusque ferrugineis, alis infumatis, halteribus fuscis.* Long.  $\frac{3}{4}$ ; alar. 2 lin.

Like *L. fungicola*; marginal and submarginal areolets much narrower; transverse veins less distant. Legs sometimes entirely ferruginous; in others the femora and the middle of the tibiæ are pitchy, or the legs are blackish, with the knees and tarsi ferruginous. Wings brownish, with distinct brown veins, the costal vein not incrassated. *It differs from L. clunipes by the wings, by the second joint of the hind tarsi, which is not thickened, and by other characters.*

Rare. In Mr. Haliday's collection.

13. **clunipes**, Meig. Zw. vi. 208. 26 (1830); Mcq.; Hal. *Nigro-fusca, facie pedibusque ferrugineis, alis hyalinis, halteribus fuscis, tarsorum posticorum articulis duobus incrassatis.* Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{4}$  lin.

*Dusky.* Margin of the front and the face ferruginous. Arista thickly pubescent. Pectus and legs ferruginous. Wings hyaline; veins nearly colourless; costal ferruginous, slightly ciliated at the base, *without a spine*, a little thickened along the middle; radial ending half-way between the subcostal and the cubital; discal transverse parted by rather more than its length from the præbrachial transverse. *Second joint of the hind tarsi nearly twice as long as the first, and a little thickened.*

Not common. (E. I.)

14. **spinipennis**, Hal. E. M. iii. 331. 14 (1836). *Nigra, pubescens, alis denigratis, costa incrassata basi spinigera, halteribus nigris.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Rather dull-black. Face elevated between the antennæ. Arista with thick black pubescence. Thorax thickly pubescent. *Wings blackish*; costal vein thickened along the middle, somewhat bristly at the base, with a long erect spine springing near the root; other veins as in *L. clunipes*. *Halteres black.* Middle tibiæ with more bristles than in *L. fungicola*; second joint of the hind tarsi scarcely thickened.

Rare. In Mr. Haliday's collection. (I.)

15. **heteroneura**, Hal. E. M. iii. 331. 15 (1836). *Nigra, facie pedibusque ferruginosis, alis infuscatis, venis transversis fere contiguis.* Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{4}$  lin.

*Black*, pubescent. *Face reddish.* Arista thickly pubescent. *Wings brownish*; costal vein a little bristly at the base; radial vein as in *L. clunipes*; discal transverse parted from præbrachial transverse by the length of the latter. *Halteres brown.* Legs dusky, nearly bare; fore legs, knees, and tibiæ rust-brown; middle tibiæ with a pair of bristles only on the outside.

Rare. In Mr. Haliday's collection. (I.)

16. **fuscipennis**, Hal. E. M. i. 178 (1834). *Nigra, alis infuscatis, halteribus fuscis capitulo pallido, pedibus piceis.* Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

*Dusky-black*, very like *L. limosa*; transverse veins less distant; legs rather shorter and more hairy. Face very short and elevated between

the antennæ, so that the head is nearly triangular above. Front thickly set with bristles, its fore border piceous. Palpi reddish. Thorax and scutellum often dull rust-brown. Scutellum elongate, with several bristles at the sides and a few on the disc. *Wings brownish*; veins dusky, nearly as in *L. limosa*. *Halteres yellowish, dusky at the base*. Abdomen opaque, black. *Legs hairy, pitchy-brown*; middle legs very thickly armed with spines or bristles; second joint of hind tarsi not thickened.

Inhabits seaweeds on the shore. (E. I.)

17. **vagans**, Hal. E. M. i. 178 (1834). *Nigra, opaca, alis infumatis, halteribus flavidis*. Long. 1; alar. 2 lin.

*Dull-black*. Eyes small. Arista finely and thickly pubescent. Scutellum as long as the metathorax. *Wings and veins brownish-yellow*; costal more dusky, rather thick, bristly at the base; radial extending over two-thirds of the interval between the subcostal and the cubital; discal transverse parted by more than its length from the præbrachial transverse. *Halteres yellowish*. Legs dusky, pubescent; fore coxæ and knees, and middle tarsi, and sometimes the legs, entirely rust-brown; middle tibiæ with numerous bristles; second joint of the hind tarsi not thickened, twice as long as the first.

Not rare. Inhabits seaweed. (E. I.)

18. **lugubris**, Hal. E. M. iii. 332. 18 (1836). *Nigra, pubescens, alis denigratis, halteribus fuscis*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Deep black*. Face piceous. Eyes larger than of *L. vagans*. Scutellum shorter. *Wings blackish*; base of the costal vein less bristly; radial ending half-way between the subcostal and the cubital; transverse veins not so distant. Middle tibiæ and tarsi dusky; middle tibiæ with fewer bristles; second joint of the hind tarsi shorter.

Common. (E. I.)

19. **Zosteræ**, Hal. E. M. i. 178 (1834). *Nigra, opaca, alis infumatis*. Long.  $1\frac{1}{4}$ ; alar. 3 lin.

*Opaque-black*. Front gibbous, bristly. Face much elevated between the antennæ. Second joint of the antennæ very bristly, larger than the third; arista with thick whitish pubescence. Thorax scarcely pubescent, very flat, with an impressed line down the middle. Scutellum not so long as the metathorax. *Wings and veins brownish-yellow*; costal more dusky, rather thick, bristly at the base; radial extending little more than half-way between the subcostal and the cubital; discal transverse parted by much more than its length from the præbrachial transverse. Halteres with a deep brown knob. Legs piceous, rather short, thinly hairy; knees and tarsi tawny; middle tibiæ with numerous bristles; second joint of hind tarsi not very long, scarcely thickened. *Var.* Legs tawny.

Common on seaweed. (E. I.)

20. **leucoptera**, Hal. E. M. iii. 333. 20 (1836). *Nigro-fusca*, *alis albis*, *costa nigricante*. Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{4}$  lin.

*Dusky*, with *paler legs*. Eyes small. Arista with thick whitish pubescence. Scutellum short, nearly semicircular. *Wings whitish; costal vein and those next to it dusky*, the rest colourless; *costal region dusky towards the end*; costal vein with a few bristles at the base, a little thickened from the subcostal to the radial vein, the latter ending much nearer to the subcubital; marginal areolet long and very narrow; submarginal broad, not extending quite to the tip of the wing; discal transverse vein parted by its length from the præbrachial transverse. Halteres brown. Middle tibiæ bristly; second joint of hind tarsi long, scarcely thickened.

Rare. In Mr. Haliday's collection. (E.)

21. **nigerrima**, Hal. E. M. iii. 334. 21 (1836).—*aterrima*, Hal. E. M. i. 178.—*minima*, Mcq.—*vitripennis*, Zett. *Atra*, *velutina*, *alis albis*. Long.  $vix \frac{1}{2}$ ; alar. 1 lin.

Deep black, without gloss. Arista with abundant whitish pubescence. Wings white-hyaline; veins colourless; costal blackish, not thickened; radial scarcely reaching to the middle of the rib; cubital arched, terminating before the tip of the wing; transverse veins almost contiguous; marginal areolet exceedingly small; submarginal wide, oblong-ovate. Halteres black; tarsi short; middle tibiæ almost bare.

Rare. In Mr. Haliday's collection. (E.)

22. **melania**, Hal. E. M. iii. 334. 22 (1836). *Atra*, *opaca*, *alis hyalinis*. Long.  $vix \frac{1}{2}$ ; alar. 1 lin.

Deep black, opaque, much resembling *L. nigerrima*. Eyes small, with minute erect hairs. Arista thickly pubescent. Wings hyaline; veins darker, very delicate; costal blackish; radial extending nearly half-way between the subcostal and the cubital, the latter scarcely arched, nearer to the tip of the wing than in *L. nigerrima*; discal transverse parted by its length from the præbrachial transverse. Halteres black. Legs piceous; middle tibiæ almost without bristles.

Rare. In Mr. Haliday's collection. (E.)

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#### Genus IV. **HETEROPTERA.**

HETEROPTERA, Mcq. D. ii. 570 (1835); Hal. *Borborus* A d, Meig. *Limosina* p.? Zett.

*Limosina* characteres, *sed vena discalis transversa valde obliquata*.

Resembles *Limosina*. *Discal transverse vein placed so slanting that it becomes confounded with the præbrachial longitudinal, but forms with the pabrachial a very acute angle advanced towards the border of the wing; radial vein continued nearer to the tip than in Limosina.*

1. **pusilla**, Meig. Zw. vi. 206. 22 (1830); Mcq.; Hal.—*acutangula*? Zett. Nigra, alis albido-hyalinis aut fusciscentibus, venis nigro-fuscis, halteribus albidis. Long. 1; alar. 2 lin.

Black. Thorax and scutellum pubescent, the latter shorter than the metathorax. Wings whitish-hyaline or dusky; veins blackish-brown. Halteres whitish. Legs finely pubescent; middle tibiæ without many bristles; fore metatarsus and hind metatarsus acutely produced at the tip, the latter triangular.

Not rare. (E.)

### SUBFAMILY 3. LAUXANIDÆ.

*Sciomyzides* p., Fal. *Ochtidia* p., Fal. *Sapromyzides*, Hal. *Lauxanidæ*, Bigot.

*Alarum venæ subcostalis et mediastinalis non conjunctæ, areolæ pobra-chialis et analis brevissimæ. Abdomen sessile. Pedes longitudine mediocres.*

*Subcostal and mediastinal veins of the wings separate. Pobra-chial and anal areolets very short. Abdomen sessile. Legs of moderate length.*

a. Sixth joint of the antennæ plumose or pubescent.

b. Wings unspotted.

c. Antennæ reaching the epistoma. 1. LAUXANIA.

c c. Antennæ not reaching the epistoma. 2. LONCHÆA.

b b. Wings generally spotted. 3. PALLOPTERA.

a a. Sixth joint of the antennæ bare. 4. OCHTHIPHILA.

### Genus I. LAUXANIA.

LAUXANIA, F. S. A. (1805); Latr.; Fal.; Meig.; Mcq.; Zett.; Hal. *Musca* p., F.; Schr.

Corpus oblongum, convexum. Vertex apud antennis subdepressus. Facies verticalis. Epistoma non prominens. *Antennæ epistoma attingentes*; articulus tertius elongato-conicus, secundo plus duplo longior; *sextus plumosus vel pubescens*.

Body oblong, convex, with few hairs and bristles. Vertex slightly depressed towards the antennæ. Face vertical, almost flat. Epistoma not prominent. *Antennæ reaching the epistoma*; third joint elongate-conical, more than twice the length of the second; *sixth pubescent or plumose*. Costal vein ending on the hind border at some distance from the tip of the wing; subcostal ending at very little before one-third of the length; mediastinal ending at before half of the length; radial ending at about nine-tenths of the length; cubital ending at the tip; discal transverse vein almost straight, slightly oblique, parted from the

præbrachial transverse by more or less than twice its length, and by more than half its length from the border.

*a. Arista plumose.* Species 1, 2.

*a a. Arista pubescent.* Species 3, 4.

1. **cylindricornis**, F. E. S. iv. 332. 86 (1794); Pz.! Fn. cv. 11; Fal.; Meig.; Mcq.; Zett.—*chrysoptera*, Schr.—*rufitarsis*, Latr. *Nigra*, antennis fulvis, thorace cinereo-trivittato, alis fulvis basi nigris, halteribus fulvis apice nigris, tarsis piceis. Long. 2; alar. 5 lin.

*Black.* Frontalia with a slight furrow on each side. Epistoma not prominent. Antennæ tawny, almost reaching the epistoma; third joint conical, about twice the length of the second; sixth black, plumose. Thorax with three grey stripes. Wings tawny, black at the base; discal transverse vein indistinctly undulating, parted by very much more than its length from the præbrachial transverse, and by little more than half its length from the border. Halteres tawny with black knobs. Tarsi piceous.

Common. (E. S. I.)

2. **lupulina**, F. E. S. iv. 323. 45 (1794); Fal.; Meig.; Mcq.; Zett. *Nigra*, glauco-tomentosa, antennis testaceis, alis subfulvis, halteribus abdomine pedibus posticis necnon tibiis tarsisque intermediis testaceis. Long.  $1\frac{1}{2}$ ; alar. 4 lin.

*Black*, with glaucous tomentum. Head whitish, a brown band in front of the vertex. Antennæ testaceous, almost reaching the epistoma; third joint conical, more than twice the length of the second; arista black, plumose. Wings slightly tawny; discal transverse vein almost straight, parted by more than twice its length from the præbrachial transverse, and by much more than half its length from the border. *Halteres, abdomen, and legs testaceous.* Fore legs black; fore knees testaceous; middle femora black.

Common. (E. S. I.)

3. **sænea**, Fal. Ortal. 28. 3 (1820); Meig.; Mcq.; Zett. *Æneoviridis*, antennis testaceis, alis subfulvis, pedibus fulvis, pedibus anticis femoribusque nigris. Long.  $1\frac{3}{4}$ –2; alar.  $4\frac{1}{2}$ –5 lin.

*Æneous-green.* Epistoma not prominent. Antennæ testaceous; third joint darker towards the tip; arista black. Wings slightly tawny; discal transverse vein parted by nearly twice its length from the præbrachial transverse, and by a little more than half its length from the border. Halteres testaceous. Legs tawny; femora and fore legs black; fore tibiæ tawny towards the base.

Common. (E. S. I.)

4. **Elisæ**, Wied.; Meig. Zw. v. 297. 2 (1826); Mcq.; Zett. *Atra*, antennis basi fulvis, alis luteis basi nigris, pedibus piceis, tarsis posterioribus fulvis. Long.  $1\frac{1}{2}$ ; alar. 4 lin.

*Deep-black*, shining. Face slightly convex. Epistoma very slightly

prominent. Antennæ reaching far beyond the epistoma; first and second joints tawny, clavate; second more than half the length of the first; third slightly tapering from the base to the tip; arista testaceous. Wings luteous, black at the base; discal transverse vein parted by about twice its length from the præbrachial transverse, and by much more than half its length from the border. Halteres black. Legs piceous; posterior tarsi tawny.

Not common. (E.)

The following additional species of this genus have been recorded as British:—

- |                   |                       |
|-------------------|-----------------------|
| 1. amica, Hal.    | 4. hyalinata, Meig.   |
| 2. geniculata, F. | 5. longipennis, Meig. |
| 3. atrimana, Mcq. | 6. sordida, Hal.      |

## Genus II. **LONCHÆA.**

LONCHÆA, Fal. Ortal. (1820); Meig.; Mcq.; Zett. *Musca* p., F.

*Corpus* breviusculum, *nigrum vel metallicum*. *Antennæ epistoma non attingentes*; articulus tertius conicus, *secundo longior*; *sextus nudus*. *Alæ immaculatæ*.

*Colour black or metallic*. Body rather short and broad, with a few hairs and bristles. Head as broad as the thorax, nearly hemispherical. Front convex. Face vertical. Epistoma and peristoma not prominent, the latter setose. Proboscis short. *Antennæ short, not reaching the epistoma*; third joint conical, longer than the second; *sixth* long, slender, *bare*. Thorax a little longer than broad; transverse furrow very indistinct. *Wings immaculate*, of moderate length; costa slightly convex towards the base; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending beyond one-third of the length; mediastinal ending at about half the length; radial ending at seven-eighths of the length; cubital and præbrachial diverging between the transverse veins, parallel from the discal transverse to the border; discal transverse nearly straight and upright, parted by much more than its length from the præbrachial transverse, and by much less than its length from the border. *Male*. Front narrow. *Fem*. Ovipositor exerted.

1. **vaginalis**, Fal. Ortal. 26. 2 (1820); Meig.; Mcq.; Zett. *Nigro-cærulea*, capite halteribus pedibusque nigris, facie albido-tomentosa, alis limpidis. Long.  $1\frac{1}{2}$ ; alar. 4 lin.

Blackish-blue. Head, halteres, and legs black. Face with whitish tomentum. Wings limpid; veins pale testaceous, blackish towards the tips.

Common. (E. S. I.)



2. *tarsata*, Fal. Ortal. 26. 3 (1820); Meig.; Mcq.; Zett. Nigro-cærulea, capite halteribus pedibusque nigris, *alis* limpidis, *tarsis posterioribus* fulvis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Blackish-blue. Antennæ, halteres, and legs black. Wings limpid; veins pale testaceous, darker towards the tips. Posterior tarsi tawny.

Not rare. (E.)

The following additional species of this genus have been recorded as British:—

- |                           |                             |
|---------------------------|-----------------------------|
| 1. <i>chorea</i> , F.     | 4. <i>ænea</i> , Meig.      |
| 2. <i>pusilla</i> , Meig. | 5. <i>nigrimana</i> , Meig. |
| 3. <i>nigra</i> , Meig.   | 6. <i>latifrons</i> , Meig. |

### Genus III. PALLOPTERA.

PALLOPTERA, Fal. Ortal. (1820); Hal.; Westw.; Zett. *Musca* p., F.; D. G.; Schr.; Gmel. *Tephritis* p., F. *Dacus* p., F. *Trupanea* p., Schr. *Sapromyza* p., Fal.; Meig.; Mcq. *Suillia*, *Sylvia*, *Minettia*, *Lycia*, et *Terenia*, Desv. *Toxoneura*, Mcq. Subgen. *Peplo-myza*, Hal.; Westw.

*Corpus* oblongum, *flavum aut cinereum*. *Antennæ breves*; articulus tertius conicus, secundo longior; sextus plumosus vel pubescens. *Alæ* sat longæ, *sæpissime maculatæ*. *Tibiæ* absque cilio præapicali. *Fem.* Abdomen apice attenuatum et depressum. Oviductus exsertus, subulatus, valvulis cohærentibus glabris.

*Colour yellow or cinereous*. Body oblong, with a few hairs and bristles. Head nearly as broad as the thorax, almost hemispherical. Front convex. Face vertical, very slightly concave on each side. Epistoma and peristoma not prominent, the former very slightly prominent in one species. Proboscis short. Palpi slender. *Antennæ short*, generally not reaching the epistoma; third joint conical, longer than the second; sixth plumose or pubescent. Thorax elliptical, with a slight trace of the transverse furrow. *Wings* rather long, *generally spotted*; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending at or before one-third of the length; mediastinal ending before half the length; cubital and præbrachial slightly diverging between the transverse veins, the former ending at the tip of the wing; discal transverse straight and upright, or nearly so, parted by much more than its length from the præbrachial transverse, and by much less than its length from the border. Pobrachial and anal areolets very short. Abdomen a little longer than the thorax. Legs slender, unarmed, almost bare. *Male*. Abdomen linear. *Fem.* Abdomen attenuated at the tip. Oviduct exserted, subulate, with smooth coherent valves.

The species generally inhabit herbage in fields and woods. They may be thus grouped:—

- a. Præbrachial vein straight, parallel with the cubital.
- b. Sixth joint of the antennæ plumose. Species 1–3.
- b b. Sixth joint of the antennæ pubescent.
- c. Antennæ not reaching the epistoma. Species 4–9.
- c c. Antennæ reaching the epistoma. Species 10, 11.
- a a. Præbrachial vein undulating. Species 12.

1. **obsoleta**, Fal. Ortal. 31. 6 (1820); Meig.; Mcq.; Zett.—*flava*, F.; Gmel.—*apicalis*, Desv. Testacea, *antennis pallidis*, thorace vix vittato, *alis sublimpidis*, abdominis segmentis antice subfuscescentibus. Long.  $2-2\frac{1}{2}$ ; alar. 4–5 lin.

Testaceous. Third joint of the antennæ conical, more than twice the length of the second. Thorax indistinctly striped. *Wings nearly limpid*; radial vein ending at about nine-tenths of the length; discal transverse almost straight, parted by more than twice its length from the præbrachial transverse, and by much more than half its length from the border. Fore borders of abdominal segments slightly brownish.

Generally distributed. (E. S. I.)

2. **rorida**, Fal. Ortal. 32. 7 (1820); Meig.; Mcq.; Zett.—*flava*, Desv. Testacea, *antennarum articulo tertio nigro, alis subluteis*. Long.  $2-2\frac{1}{2}$ ; alar. 4–5 lin.

Testaceous. *Third joint of the antennæ black*, short-conical, rather broad, testaceous at the base. *Wings slightly luteous*; radial vein ending at about nine-tenths of the length of the wing; discal transverse almost straight, parted by nearly twice its length from the præbrachial transverse, and by more than half its length from the border.

Generally distributed. (E. S. I.)

3. **inusta**, Meig. Zw. 5. 267. 21 (1826); Mcq. Testacea, *palpis nigris, alis sublimpidis, vitta antica macula una apicali alteraque apud venam discalem transversam fuscis*, abdomine fusco, *femoribus et tibiis posticis tibiisque anticis apice tarsisque piceis*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Testaceous. Head whitish beneath. Palpi black. Third joint of the antennæ rather broad, much more than twice the length of the second. *Wings almost limpid, with a brown spot on the tips of the subcostal and mediastinal veins, another on the discal transverse vein, and a brown stripe extending along the border from half the length of the wing to the præbrachial vein*; radial vein ending at about eleven-twelfths of the length of the wing; discal transverse vein indistinctly less than twice its length from the præbrachial transverse, and undulating, parted by rather more than half its length from the border. Halteres testaceous. Abdomen brown. *Legs testaceous; tarsi, tips of fore tibiæ and of hind tibiæ, and of hind femora piceous*.

Generally distributed. (E. S. I.)

4. **arcuata**, F. S. I. ii. 451. 86 (1781); Gmel.; Fal.; Meig.; Mcq.; Zett. Lutea, *alis limpidis, maculis quatuor nigricantibus, prima secundaque apicalibus, tertia quartaque apud venas transversas*. Long. 2; alar. 4 lin.

Luteous. Third joint of the antennæ conical, full twice the length of the second. *Wings limpid with four blackish spots, one on the tips of the subcostal and mediastinal veins, one on each transverse vein, and one along the border at the tip*; radial vein ending at beyond eleven-twelfths of the length of the wing; discal transverse almost straight, parted by twice its length from the præbrachial transverse, and by rather more than half its length from the border. Oviduct oblongate, short, piceous on each side at the base.

Generally distributed. (E. S. I.)

5. **trimacula**, Meig. Zw. v. 267. 22 (1826); Zett. Testacea, *alis limpidis, maculis tribus fuscis, prima secundaque apicalibus tertiaque apud venam discalem transversam*. Long. 2-2½; alar. 4-5 lin.

Testaceous. Third joint of the antennæ conical, full twice the length of the second. *Wings limpid, with three brown spots, one on the tips of the subcostal and mediastinal veins, one on the discal transverse vein, and one on the border about the tip*; radial vein ending at beyond eleven-twelfths of the length of the wing; discal transverse vein almost straight, parted by much more than twice its length from the præbrachial transverse, and by about half its length from the border.

Not rare. (E.)

6. **umbellatarum**, F. S. I. ii. 451. 87 (1781); Schr.; Meig.; Mcq.; Zett.—*gangranosa*, Pz.! Fn. lix. 22; Fal. *Nigra*, cano-tomentosa, *antennis fulvis, alis limpidis, maculis quatuor fuscis, prima costali, secunda apicali, tertia quartaque apud venas transversas, pedibus testaceis*. Long. 1½-2; alar. 3-4 lin.

Black, with hoary tomentum. Head with white tomentum, testaceous in front. Antennæ tawny; third joint conical, rather broad, about twice the length of the second. *Wings limpid, with four brown spots, one on the tip of the mediastinal vein, one on each transverse vein, and one occupying the tip and the adjoining part of the costa*; radial vein ending at beyond eleven-twelfths of the length; discal transverse vein indistinctly curved outward, parted by much more than its length from the præbrachial transverse, and by about half its length from the border. Halteres whitish. Oviduct short, lanceolate. Legs pale testaceous.

Generally distributed. (E. S. I.)

7. **ustulata**, Fal. Ortal. 24. 2 (1820); Meig.; Mcq.; Zett. Testacea, *antennis luteis, thoracis disco nigro, alis limpidis apice fuscis*. Long. 1½-1¾; alar. 3½-4 lin.

Testaceous, with whitish tomentum. Antennæ luteous; third joint conical, rather broad, less than twice the length of the second. *Thorax*

black; humeral scapulæ and scutellum testaceous. *Wings limpid, long, with a brown spot at each tip*; radial vein ending at beyond eleven-twelfths of the length of the wing; discal transverse indistinctly undulating or almost straight, parted by much more than twice its length from the præbrachial transverse, and by a little less than half its length from the border. Halteres and legs pale testaceous.

Not rare. (E.)

8. **quadripunctata**, F. S. I. ii. 453. 93 (1781); Schr.; Gmel.; Fal.; Meig.; Mcq.; Desv.; Zett.—*searpunctata*, Meig.; Mcq.; Desv.; Zett. Testacea, *alis sublimpidis, abdomine maculis quatuor vel sex nigris*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Testaceous. Head yellow. Third joint of the antennæ full twice the length of the second. *Wings nearly limpid*; radial vein ending at about nine-tenths of the length of the wing; discal transverse almost straight, parted by nearly twice its length from the præbrachial transverse, and by a little less than its length from the border. *Abdomen almost linear; fourth and fifth, or third, fourth, and fifth segments with a black spot on each side.*

Not rare. (E. S. I.)

9. **saltuum**, L. Fn. 18. 66 (1761).—*unicolor*, F.; Meig.; Mcq.; Zett.—*marginella*, Fal. Lutea, *thorace fusco-bivittato, alis subluteis vitta marginali nigra*. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$ ; alar.  $3\frac{1}{2}$ –4 lin.

Luteous. Head testaceous. Antennæ pale luteous; third joint short-conical, rather broad, about twice the length of the second. *Thorax with two brown stripes. Wings slightly luteous, with a black marginal stripe dilated at each end, and extending from the tip of the subcostal vein to beyond the tip of the cubital*; radial vein ending at far beyond eleven-twelfths of the wing; discal transverse vein parted by a little more than twice its length from the præbrachial transverse, and by more than half its length from the border. Halteres and legs testaceous. *Fem. Oviduct piceous, lanceolate, recurved, very slender.*

Not common. (S.)

10. **præusta**, Fal. Ortal. 31. 4 (1820); Meig.; Mcq.; Zett.—*liturata*, Desv. Testacea, *alis limpidis, maculis tribus apicalibus unaque apud venam discalem transversam fuscis*, abdomine fulvo. Long. 2; alar. 4 lin.

Testaceous. Vertex slightly prominent in front. Third joint of the antennæ much more than twice the length of the second. *Wings limpid; discal transverse vein and tips of the radial, cubital, and præbrachial veins clouded with brown*; discal transverse vein parted by a little more than twice its length from the præbrachial transverse, and by more than half its length from the border. Halteres and legs testaceous. Abdomen tawny.

Generally distributed. (E. S. I.)

11. **decempunctata**, Fal. Ortal. 30. 1 (1820); Meig.; Mcq.; Zett.—*communis*, Desv. Testacea, *alis subtestaceis, maculis tribus apicalibus duabusque apud venas transversas fuscis, abdomine fulvo*. Long. 2; alar. 4 lin.

Testaceous. Head whitish beneath. Antennæ tawny; third joint twice the length of the second. *Wings slightly testaceous, with five brown spots, one on each transverse vein, and three on the tips of the radial, cubital, and præbrachial veins*; discal transverse vein parted by more than its length from the præbrachial transverse, and by a little less than half its length from the border. Halteres pale testaceous. Abdomen tawny, pale testaceous at the base. Legs pale testaceous; tarsi darker.

Generally distributed. (E. S. I.)

12. **pulchella**, Ross. Fn. Etrusc. Ed. Ill. ii. 478. 15. 28 (1794).—*fasciata*, Mcq. Testacea, thoracis vittis duabus scutellique apice fuscis, alis limpidis, vittis duabus testaceis fusco-strigatis, abdomine fulvo. Long. 2; alar. 4 lin.

Testaceous, whitish beneath. Face short. Epistoma very slightly prominent. Palpi long, with brownish tips. Antennæ rather broad, almost reaching the epistoma; third joint conical, hardly twice the length of the second; sixth minutely pubescent. Thorax with a brownish stripe on each side. Scutellum prominent, with a brownish tip. Wings limpid, long, narrow, with two testaceous brown-streaked bands, one along the fore border, the other undulating and near the hind border; radial vein ending at about nine-tenths of the length of the wing; discal transverse oblique, curved outward, parted by much more than its length from the præbrachial transverse, and by less than half its length from the border. Halteres and legs pale testaceous. Abdomen tawny, oval, testaceous at the base. *Fem.* Oviduct lanceolate, about half the length of the abdomen.

Not rare. Frequents windows. (E.)

The following additional species of *Palloptera* have been recorded as British:—

- |                         |                     |
|-------------------------|---------------------|
| 1. pallida, Fal.        | 6. notata, Fal.     |
| 2. plumicornis, Fal.    | 7. 5-maculata, Mcq. |
| 3. femorella, Fal.      | 8. placida, Meig.   |
| 4. pallidiventris, Fal. | 9. litura, Hoffm.   |
| 5. rivosa, Meig.        |                     |

#### Genus IV. **OCHTHIPHILA.**

OCHTHIPHILA, Fal. Ochtid. (1820); Meig.; Mcq.; Zett. *Chamæmyia*, Pz. *Estelia*, Desv.

Corpus oblongum, sublineare. Oculi rotundi. *Antennarum* articulus tertius sublinearis, apice rotundatus; *sextus nudus*. Alæ sat angustæ.

Body oblong, nearly linear, with few hairs and bristles. Face flat, bare. Peristoma small, round. Eyes round. Third joint of the antennæ nearly linear, rounded at the tip, more than twice the length of the second; *sixth bare*. Wings rather narrow. Costal vein ending on the hind border near the tip; subcostal a little shorter than the mediastinal, which ends a little beyond one-third of the length; radial ending very near the tip; cubital and præbrachial parallel; discal transverse straight and upright, parted by more than twice its length from the præbrachial transverse, and by more than its length from the border. Abdomen with five apparent segments, hardly longer than the thorax.

These flies inhabit herbage.

1. **aridella**, Fal. Ochtid. 10. 2 (1820); Meig.; Mcq.; Zett. Canotomentosa, alis limpidis, *abdomine immaculato*, tibiis flavis. Long.  $1\frac{1}{4}$ ; alar. 3 lin.

Black, with hoary tomentum. Wings limpid. *Abdomen unspotted*. Legs yellow; femora, except the tips, and tarsi towards the tips black.

Generally distributed. (E. S. I.)

2. **juncorum**, Fal. Ochtid. 9. 1 (1820); Meig.! Zw. vi. pl. 59. f. 11; Mcq.; Zett. Canotomentosa, alis limpidis, *abdomine e maculis nigris bivittato*, tibiis flavis. Long.  $1\frac{1}{4}$ ; alar. 3 lin.

Black, with hoary tomentum. Wings limpid. *Abdomen with three black spots on each side*. Legs yellow; femora, except the tips, and tarsi towards the tips black.

Generally distributed. (E. S. I.)

The following additional species have been recorded as British:—

1. polystigma, Meig.

3. geniculata, Hal.

2. flavipalpis, Hal.

#### SUBFAMILY 4. ORTALIDES.

ORTALIDES, Hal.; Westw. Class. Ins. i. 148 (1839). *Ortalides*, Fal.

*Ortalides* et *Aciphoreæ*, Fal.; Zett. *Tephritidæ*, Bigot.

*Alarum venæ subcostalis et mediastinalis non conjunctæ, areolæ pobrachialis et analis sat longæ. Abdomen sessile. Pedes longitudine mediocres.*

*Subcostal and mediastinal veins separate. Pobrachial and anal areolets not short. Abdomen sessile. Legs of moderate length.*

a. Palpi thick.

b. Colour not metallic. 1. PLATYSTOMA.

b b. Colour metallic. 2. ULIDIA.

*a a.* Palpi slender.

*b.* Oviduct not flat nor cylindrical. 3. *ORTALIS*.

*b b.* Oviduct flat or cylindrical. 4. *TRYPETA*.

Some of the species in *Ortalis* and in *Trypeta* are mutually nearer allied than they are to others in their respective genera.

### Genus I. **PLATYSTOMA.**

**PLATYSTOMA**, Latr. G. C. iv. 354 (1809); Meig.; Mcq.; Desv.  
*Musca* p., F.; Schr.; Gmel. *Dictya* p., F. *Trupanea* p., Schr.

*Corpus* latum, *obscurum*. Epistoma et peristoma turgida. Oculi magni. *Proboscis* crassa. *Palpi* lati. Antennæ breves; articulus tertius conicus, secundo paullo longior; sextus nudus. Abdomen brevi-obconicum. Pedes sat validi.

Body broad. Front a little longer than broad. Face nearly vertical. Epistoma and sides of peristoma prominent. Eyes large, elliptical. *Proboscis and palpi thick*. Antennæ short, not reaching the epistoma; third joint conical, a little longer than the second; sixth slender, bare. Thorax with an indistinct transverse furrow. Wings moderate; costal vein ending at the tip of the wing; subcostal vein ending beyond one-third of the length; mediastinal vein ending much beyond half the length; radial ending a little before five-sixths of the length; cubital and præbrachial very slightly diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse upright, hardly curved outward, parted by much more than its length from the præbrachial transverse, and by much less than half its length from the border. Abdomen short-obconical. Legs rather stout.

1. **seminationis**, L. Fn. 1874 (1761); F.; Schr.; Gmel.; Latr.; Meig.; Mcq.; Desv. Nigra, flavo-punctata, antennis piceis, alis nigris albo-guttatis, abdomine subtus flavo. Long. 2-3; alar. 4-6 lin.

Black, dull, with numerous minute irregular yellow marks. Head with white tomentum about the eyes. Antennæ piceous. Proboscis, palpi, and legs black. Wings black, with numerous white dots of various size. Halteres testaceous, with black knobs. Abdomen yellow beneath.

Common in Kent. (E.)

### Genus II. **ULIDIA.**

**ULIDIA**, Meig. Zw. v. 385 (1826); Mcq.; Zett. *Musca* p., F. *Tephritis* p., F. *Chrysomya*, Fal.

*Corpus* breve, latum, *metallicum*. Caput transversum; vertex latissimus. Facies obliqua. Epistoma et peristoma turgida. *Palpi* crassi.

Antennæ brevissimæ; articulus tertius subrotundus, secundo paullo longior; sextus nudus. Abdomen brevi-obconicum. Pedes validi.

Body short, broad. Head transverse; vertex flat, very broad. Face obliquely projecting. Epistoma and sides of the peristoma prominent. *Palpi thick.* Antennæ very short; third joint nearly round, a little longer than the second; sixth setaceous, very slender, stout towards the base. Wings moderate; costal vein ending at the tip of the wing; subcostal ending at much beyond one-third of the length; mediastinal ending much beyond half the length; radial ending beyond seven-eighths; præbrachial much curved, approaching very near the cubital at the tip of the wing; discal transverse almost straight, very slightly oblique, parted by more than twice its length from the præbrachial transverse. Anal areolet lanceolate, very long. Abdomen short-obconical. Legs rather stout. *Fem.* Oviduct exerted.

1. **demandata**, F. E. S. Suppl. 564 (1794); Meig.; Mcq.; Zett. —*splendida*, Fal.—*bicolor*, Mcq. Viridis, capite rufo albo-bimaculato, antennis rufescentibus apice nigris, thorace æneo-trivittato, alis albis, pedibus nigris, tarsis flavis. Long. 2; alar. 4 lin.

Metallic-green. Head red, with a white spot on each side of the vertex; face and orbits of eyes with white tomentum. Antennæ reddish; third joint black towards the tip; sixth black, pale at the base. Thorax with three æneous stripes. Wings white; veins pale yellow; costal vein black towards the tip. Halteres white. Legs black; posterior tarsi yellow, with black tips; fore tarsi yellow at the base.

Rare. (E.)

*Ulidia erythrophthalma*, Meig., has been recorded as a British species.

### Genus III. ORTALIS.

ORTALIS, Fal. Ortal. (1820); Meig.; Mcq.; Zett. *Musca* p., F. *Scatophaga* p., F. *Tephritis* p., F. *Trupanea* p., Schr. *Scioptera*, Kby. *Ceroxys*, *Herina*, etc., Mcq. *Meliera*, *Myodina*, *Heramya*, *Herina*, etc., etc., Desv.

Corpus oblongum. Facies carinata. *Oculi non metallici. Palpi graciles.* Antennarum articulus tertius secundo plus duplo longior; sextus pubescens. *Fem. Oviductus non depressus nec cylindricus.*

Body oblong, with a few hairs and bristles. Face keeled. *Eyes not metallic-coloured. Palpi slender.* Antennæ moderately long; third joint more or less longer than the second; sixth minutely pubescent, more than twice the length of the third; costal vein ending on the hind border near the tip of the wing; subcostal ending beyond one-third of the length; mediastinal ending beyond half the length; cubital ending at the tip. *Fem. Oviduct not flat nor cylindrical.*



- a. Third joint of the antennæ pointed.
  - b. Third joint of the antennæ much longer than the second.
    - c. Legs pale.—*Melieria*, Desv.—*Ceroxys* p., Mcq. Species 1, 2.
    - c c. Legs piceous.—*Meckelia*, Desv. Species 3.
  - b b. Third joint of the antennæ full thrice the length of the second.—*Rivellia*, Desv. Species 6.
- a a. Third joint of the antennæ not pointed.
  - b. Tarsi black.—*Herina*, Mcq. Species 4.
  - b b. Tarsi ferruginous.
    - c. Wings with four black bands.—*Herina*, Mcq. Species 5.
    - c c. Wings with two black spots.—*Seioptera*, Kby. Species 7.

1. **crassipennis**, F. E. S. iv. 357. 185 (1792); Fal.; Meig.; Mcq.; Zett.—*gangrænosa*, Desv. Nigra, cano-tomentosa, capite albedo, vertice luteo, antennis fulvis, alis albidis fusco-quadrifasciatis, abdomine fusco-fasciato, *pedibus testaceis, femoribus nigris*. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with hoary tomentum. Head whitish; vertex luteous. Antennæ tawny; third joint conical, pointed and curved upward at the tip, much longer than the second. Wings whitish, with four brown bands; first, second, and fourth shortened hindward; third interrupted; fourth apical; radial vein ending beyond five-sixths of the length of the wing; cubital and præbrachial veins hardly diverging between the transverse veins, almost parallel from the discal transverse to the border; discal transverse hardly undulating, slightly oblique, parted by much more than its length from the præbrachial transverse, and by much less than half its length from the border. Halteres whitish. Abdomen with brown bands. *Legs testaceous; femora black. Fem.* Oviduct short, lanceolate, ferruginous, shining.

Not rare. (E. I.)

2. **omissa**, Meig. Zw. v. 274. 2 (1826); Mcq. Cano-tomentosa, capite flavo, palpis antennisque fulvis, alis albis, macula basali fasciisque tribus fuscis, *pedibus testaceis, tarsis fulvis*. Long.  $3\frac{1}{2}$ ; alar. 7 lin.

Black, with hoary tomentum. Head pale-yellow. Epistoma not prominent. Proboscis ferruginous. Palpi tawny. Antennæ tawny; third joint subconical, much acuminate, hardly retuse or inclined upward at the tip. Wings white, with a brown spot near the base, and with three brown bands; first and second bands shortened hindward and interrupted; fourth apical; radial vein ending at about seven-eighths of the length of the wing; cubital and præbrachial veins very slightly diverging between the transverse veins, nearly parallel from the discal transverse to the tip; discal transverse vein almost straight and upright, parted by much more than its length from the præbrachial transverse, and by less than half its length from the border. Halteres pale testaceous. *Legs testaceous; tarsi tawny.*

Not common. (E.)

3. **Urticæ**, L. Fn. 1875 (1761); F.; Gmel.; Fal.; Meig.; Mcq.;

Desv.; Zett. Nigra, capite antennisque luteis, alis limpidis nigro-quadrifasciatis, *pedibus piceis, tarsis ferrugineis*. Long.  $2\frac{1}{2}$ –3; alar. 5–6 lin.

Black, shining. Head and antennæ luteous. Third joint of the antennæ conical, pointed, slightly curved upward. Thorax with hoary tomentum. Wings limpid, with four blackish bands; first, second, and fourth shortened hindward; fourth apical, connected in front with the third; radial vein ending at about nine-tenths of the length of the wing; cubital and præbrachial slightly diverging between the transverse veins, slightly converging from the discal transverse to the tip; discal transverse slightly undulating, nearly upright, parted by much more than its length from the præbrachial transverse, and by less than half its length from the border. Halteres white. *Legs piceous; tarsi ferruginous*.

Not rare. (E.)

4. **picta**, Meig. Zw. v. 276. 6 (1826). Atræ, capite rufo, antennis fulvis, *alis limpidis fusco-quadrifasciatis, pedibus piceis, tarsis nigris*. Long.  $2-2\frac{1}{2}$ ; alar. 4–5 lin.

Deep black. Head bright red, tawny in front, with white tomentum about the eyes. Epistoma rather prominent. Antennæ tawny, almost reaching the epistoma; third joint almost linear, rounded and darker at the tip, full thrice the length of the second. *Wings limpid, with three brown spots, one at the tip, and one on each of the transverse veins, and with a brown costal streak from the base to the tip of the mediastinal vein, whence it extends hindward to the transverse vein; radial vein ending at beyond eleven-twelfths of the length; cubital and præbrachial veins parallel from the præbrachial transverse to the tip; discal transverse vein almost straight and upright, parted by more than its length from the præbrachial transverse, and by much less than half its length from the border. Halteres white. Legs piceous; tarsi black.*

Generally distributed. (E. S. I.) Several of Meigen's species of *Ortalis* are probably varieties of *O. picta*.

5. **Cerasi**, L. Fn. 1878 (1761); D. G.; F.; Schr.; Gmel.; Latr.; Meig.; Mcq.; Zett. D. S.—*mali*, F.—*morio*, F.—*frondescentiæ*? L.—*uliginosa*, Fal.; Zett. I. L. Atræ, capite ferrugineo, antennis testaceis, *alis albidis fasciis quatuor nigro-fuscis, pedibus piceis, tarsis ferrugineis*. Long.  $1\frac{1}{2}-1\frac{3}{4}$ ; alar.  $3-3\frac{1}{2}$  lin.

Deep black. Head ferruginous, with white tomentum about the eyes. Face and epistoma prominent. Antennæ testaceous; third joint linear, full thrice the length of the second. *Wings whitish, rather narrow, with four blackish-brown bands; first extending to the base along the costa, connected with the second on the hind border; third and fourth connected along half the length from the fore border; radial vein ending at about nine-tenths of the length of the wing; cubital and præbrachial veins parallel from the præbrachial transverse to the border; discal transverse vein curved outward, slightly oblique, close to the border,*

parted by much more than its length from the præbrachial transverse. Halteres whitish. Legs piceous; *tarsi ferruginous*.

Generally distributed. (E. S. I.)

6. **syngenesiæ**, F. S. I. ii. 454. 101 (1781); Gmel.; Latr.; Meig.; Mcq.; Zett.—*urticæ*, Schr.—*juncorum*, Fal.—*herbarum*, Desv. *Nigro-viridis*, capite ferrugineo, antennis piceis, *alis limpidis nigro-fusco-quadrifasciatis*, *pedibus nigris*, *tarsis basi ferrugineis*. Long.  $1\frac{1}{4}$ – $1\frac{1}{2}$ ; alar. 2– $2\frac{1}{2}$  lin.

*Blackish-green*, shining. Head ferruginous. Antennæ piceous; third joint long-conical, slightly pointed, full thrice the length of the second. *Wings limpid, varied with blackish-brown, which forms a stripe in front at the base, a spot at the tip, and two intermediate bands, which cover the transverse veins*; radial vein ending at a little beyond three-fourths of the length of the wing; cubital and præbrachial veins diverging between the transverse veins, parallel from the discal transverse to the border; discal transverse straight and upright, parted by less than its length from the præbrachial transverse, and by hardly half its length from the border. Halteres and *legs black*; *tarsi ferruginous towards the base*.

Not rare. (E. S. I.)

7. **vibrans**, L. Fn. 1867 (1761); D. G.; F.; Schr.; Gmel.; Ross.; Latr.; Fal.; Meig.; Mcq.; Zett.; Geoff. *Atra*, capite rufo, antennis fulvis, *alis limpidis apice nigro-fuscis*, *tarsis posterioribus genibusque ferrugineis*. Long. 3; alar. 6 lin.

Deep black, shining. Head bright red, tawny in front, with white tomentum about the eyes. Epistoma prominent. Antennæ tawny; third joint conical. *Wings limpid, with a blackish-brown spot at the tip, and another between the subcostal and mediastinal veins*; mediastinal vein ending at far beyond half the length of the wing; cubital and præbrachial veins diverging between the transverse veins, slightly converging from the præbrachial transverse to the tip; radial ending at much beyond eleven-twelfths of the length; discal transverse indistinctly inclined outward, parted from the præbrachial transverse by a little more than twice its length, and from the border by about half its length. Halteres luteous. *Knees and posterior tarsi ferruginous*.

Generally distributed. (E. S. I.)

The following additional species of *Ortalis* have been recorded as British:—

- |                            |                             |
|----------------------------|-----------------------------|
| 1. <i>marmorea</i> , F.    | 6. <i>afflicta</i> , Meig.  |
| 2. <i>guttata</i> , Curt.  | 7. <i>luctuosa</i> , Meig.  |
| 3. <i>ornata</i> , Meig.   | 8. <i>lacustris</i> , Meig. |
| 4. <i>nigrina</i> , Wied.  | 9. <i>oscillans</i> , Meig. |
| 5. <i>lugubris</i> , Meig. | 10. <i>paludum</i> , Fal.   |

Genus IV. **TRYPETA.**

TRYPETA, Meig. Illig. Mag. ii. 277. 94 (1802); Loew. *Musca* p., F. E. S.; Schr. I. A.; Gmel.; Pz. *Scatophaga* p., F. S. A. *Dacus* p., F. S. A. *Dictya* p., F. *Trupanea* p., Schr. F. B. *Tephritis*, Latr.; F. S. A.; Pz.; Fal.; Mcq.; Zett.; Westw. *Aciphoreæ*, Desv. *Tephritites*, Newm.

Corpus oblongum. Facies carinata. *Oculi metallici*. *Palpi* graciles. Antennarum articulus tertius secundo plus minusve longior; sextus plerumque pubescens. *Fem. Oviductus sæpissime depressus aut cylindricus*.

Body oblong, with a few hairs and bristles. Face keeled. *Eyes metallic-coloured*. *Palpi slender*. Antennæ moderately long; third joint more or less longer than the second; sixth very generally pubescent. Costal vein ending on the hind border near the tip of the wing; subcostal ending beyond one-third of the length; mediastinal ending beyond half the length; cubital ending at the tip. *Fem. Oviduct generally flat, obconical; in some species cylindrical*.

The larvæ of *Trypeta* live in the interior of vegetables, and several of them form galls. The flies are remarkable for the brilliant colours of their eyes. They may be grouped thus:—

*a*. Discal transverse vein very oblique. Species 1.

*a a*. Discal transverse vein nearly or quite upright.

*b*. Arista bare. Species 2.

*b b*. Arista pubescent.

*c*. Abdomen more or less cylindrical. Oviduct not exerted. Species 3–5.

*c c*. Abdomen not cylindrical. Oviduct exerted.

*d*. Wings immaculate, or slightly spotted.—*Ensina*, Desv. (*Myopites*, De Brebisson), et *Terellia*, Desv. Species 6, 7.

*d d*. Wings spotted.—*Terellia*, Desv., et *Forellia*, Desv. Sp. 8, 9.

*d d d*. Wings with spots in front, and a single band.—*Sphe-nilla*, Desv. Species 10.

*d d d d*. Wings brown or black, with limpid dots.—*Næta*, Desv. Species 11.

*d d d d d*. Wings with dotted bands.—*Acinia*, Desv., et *Urellia*, Desv. Species 12–17.

*d d d d d d*. Wings with ferruginous grey-bordered bands.—*Tephitis*, Desv. Species 18, 19.

*d d d d d d d*. Wings with brown or black bands.—*Urophora*, Desv. Species 20–22.

1. **Gædii**, Meig. Zw. vi. 382. 64 (1830).—*purmundus*, Harr. Ni-gra, capite antennis scutello corpore subtus pedibusque testaceis, alis limpidis macula basali limpido-guttata radiisque quatuor fuscis. Long. 2; alar. 5 lin.

Black, with grey tomentum. Head, antennæ, scutellum, body beneath, and legs testaceous. Thorax with two darker stripes. Wings limpid, brown, with some limpid dots in front for near half the length from the base, and with four brown streaks, two of which extend to the costa, and two to the hind border from the brown part, the second in front extends to the tip of the wing; cubital and præbrachial veins slightly diverging from the præbrachial transverse to the tip; discal transverse nearly straight, very oblique, parted by much less than its length from the præbrachial transverse, and by less than half its length from the border. Halteres and legs testaceous. Abdomen hardly longer than broad.

Rare. In the collection of the Entomological Club. (E.)

2. **Heraclei**, L. Fn. 461. 1877 (1761); Gmel.; Loew; Zett.—*Onopordinis*, F.; Gmel.; Fal.; Meig.; Mcq.—*Centaureæ*, F. Picea vel ferruginea, alis fuscis limpido-septemmaculatis, pedibus testaceis. Long. 2-3; alar. 4-6 lin.

Piceous or ferruginous, shining. Head ferruginous, testaceous beneath. Antennæ testaceous; third joint much longer than the second. Metathorax black. Wings brown, with two limpid spots in front, two in the disc, and three larger behind; cubital and præbrachial veins very slightly diverging between the transverse veins, parallel and slightly curved from the discal transverse to the tip; discal transverse nearly straight, slightly oblique, parted by much less than its length from the præbrachial transverse, and by less than half its length from the border. Halteres and legs testaceous. Abdomen elliptical, a little broader than the thorax.

Generally distributed. (E. S. I.)

3. **cognata**, Wied. Zool. Mag. i. 76 (1816); Meig. Zw. v. 315. 6. pl. 48. f. 19; Loew; Boie.; Desv.; Zett. Fulva, longa, cylindrica, metathorace nigro-bimaculato, alis limpidis fasciis quatuor testaceo-fuscis. Long. 3½; alar. 7 lin.

Tawny, long, cylindrical. Third joint of the antennæ conical, much longer than the second. Metathorax with a black spot on each side. Wings limpid, with four irregular partly brown partly testaceous bands, which cover the transverse veins; fourth connected in front with a short brown stripe, which extends along the costa to the tip; cubital and præbrachial veins diverging between the transverse veins, slightly curved and almost parallel from the discal transverse to the tip; discal transverse oblique, nearly straight, parted by a little more than its length from the præbrachial transverse, and by one-third of its length from the border. Legs hairy.

Not common. (E. I.)

4. **Artemisiæ**, F. E. S. iv. 351. 162 (1792); Meig. ! pl. 48. f. 21; Loew; Zett.—*interrupta*, Fal.—*intermissa*, Meig.; Mcq.—*continua*? Meig. Fulva, subcylindrica, capite tibiis tarsisque testaceis,

thorace subquadrivittato, *alis* limpidis *fusco-quinquemaculatis*. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Tawny, *nearly cylindrical*. Head testaceous in front and beneath. Third joint of the antennæ conical, much longer than the second. Thorax with four indistinct darker stripes. Metathorax black. *Wings* limpid, *with five brown spots*; first between the præbrachial transverse vein and the costa; second apical; third intermediate; fourth on the discal transverse vein; fifth on the pabrachial; cubital and præbrachial veins slightly diverging between the transverse veins, nearly parallel from the discal transverse to the tip; discal transverse nearly straight and upright, parted by much more than its length from the præbrachial transverse, and by less than half its length from the border. Tibiæ and tarsi testaceous.

Not common. (E.)

5. **Zoe**, Wied.; Meig.! Zw. v. 315. 7. pl. 48. f. 14, 15 (1826); Mcq.; Loew; Zett. D. S.—*apicalis*, Zett. I. L. Testacea, *subcylindrica*, metathorace nigro, *alis* limpidis *antice fusco-bimaculatis*. Long.  $2-2\frac{1}{4}$ ; alar.  $4-4\frac{1}{2}$  lin.

Testaceous, *nearly cylindrical*. Third joint of the antennæ conical, much longer than the second. Metathorax black. *Wings* limpid, *with two brown spots*; first between the præbrachial transverse vein and the costa, and extending thence towards the base; second apical; cubital and præbrachial veins very slightly diverging between the transverse veins, almost parallel from the discal transverse to the tip; discal transverse nearly straight and upright, parted by much more than its length from the præbrachial transverse, and by hardly half its length from the border.

Not common. (E. I.)

6. **Sonchi**, L. S. N. ii. 998 (1763); Gmel.; Fal.; Meig.; Mcq.; Zett.; Loew; Boie.—*obsoleta*, Wied.; Meig.—*Asteris*, Hal.—*chrysanthemi*, Desv.—*herbarum*, Desv.—*pratensis*, Desv.—*Linariae*, Desv.—*Scorzonerae*, Desv.—*Doronici*, Desv. Nigra, cano-tomentosa, subtus testacea, capite abdominis marginibus posticis pedibusque testaceis, antennis luteis, *alis albis*, *costa fusco-trimaculata*. Long.  $1-1\frac{1}{2}$ ; alar.  $2-2\frac{3}{4}$  lin.

Black, with hoary tomentum. Head and body beneath testaceous. *Proboscis* long, slender, *bigeniculate*. Antennæ pale luteous; third joint linear, rounded at the tip, longer than the second. *Wings* white, *with three brown spots in front*, first and largest between the tips of the subcostal and mediastinal veins; cubital and præbrachial veins very slightly diverging between the transverse veins, parallel from the discal transverse to the tip; discal transverse straight and upright, parted by its length from the præbrachial transverse, and by much more than half its length from the border. Halteres pale yellow. Hind borders of the segments and tip of the abdomen and legs testaceous.

Generally distributed. (E. S. I.)

7. **Serratulæ**, L. Fn. 1871 (1761); F.; Gmel.; Fal.; Meig.; Mcq.; Zett.—*pallens*, Wied.; Meig.; Mcq.; Zett.—*palpata*, Desv.—*luteola*, Desv.—*Abrotani*, Mcq.—*longicauda*? Meig.—*fuscicornis*, Loew.—*nigricoma*, Loew.—*dentata*, Loew. Testacea, vertice antennisque luteis, thoracis disco nigro, *alis limpidis costa nonnunquam fusco-maculata*, abdomine ferrugineo maculis fuscis. Long. 2–2½; alar. 4 lin.

Testaceous. Vertex luteous. Antennæ luteous; third joint conical, a little longer than the second. Disc of the thorax black, with grey tomentum. *Wings limpid, frequently with two brown spots in front, and brown marks on the transverse veins*; cubital and præbrachial veins slightly diverging between the transverse veins, parallel from the discal transverse to the tip; discal transverse almost straight, slightly oblique, parted by a little more than its length from the præbrachial transverse, and by hardly half its length from the border. Halteres whitish. Abdomen ferruginous, occasionally with two brown spots on each segment. *Fem.* Oviduct flat, obconical, moderately long.

Not common. (E.)

8. **florescentiæ**, L. Fn. 1880 (1761); Fal.; Meig.; Mcq.; Loew; Boie; Zett.—*ruficauda*, F. Flava, antennis luteis, *thoracis disco nigro, alis albidis cinereo-nebulosis fusco-maculatis*, abdomine ferrugineo. Long. 1¼–1½; alar. 3 lin.

Pale yellow. Vertex tawny. Antennæ pale luteous; third joint nearly linear, obliquely rounded at the tip, full twice the length of the second. *Disc of the thorax black*, with a yellow streak on each side, and an angular spot in front of the scutellum. Metathorax black. *Wings whitish, slightly clouded with grey, and with three brown spots in front*; transverse veins also clouded with brown; cubital and præbrachial very slightly diverging between the transverse veins, hardly converging from the præbrachial transverse to the tip; discal transverse nearly upright, very slightly curved outward, parted by a little more than its length from the præbrachial transverse, and by full half its length from the border. Halteres white. Abdomen pale ferruginous. *Fem.* Oviduct flat, obconical, rather short.

Not common. (E.)

9. **Arniciæ**, L. Fn. 1872 (1761); F.; Scop.; Schr.; Gmel.; Latr.; Fal.; Meig.; Mcq.; Zett.—*flava*, Geoff.; Loew; Boie.—*miliaria*, Schr.; Gmel.—*sphærocephala*, Schr.—*arcuata*, F.; Gmel.; Pz. ! Fn. pl. xviii. f. 22.—*Onopordinis*? Don.—*cirsiorum*, Desv. *Læte testacea*, vertice luteo, *alis cinereo-subnebulosis, maculis quatuor fuscis*, oviductu ferrugineo apice nigro. Long. 3–4; alar. 6 lin.

*Bright testaceous.* Vertex luteous. Third joint of the antennæ conical, about twice the length of the second. *Wings slightly clouded with grey, brown at the tips, and with three brown spots*, one at the tips of the subcostal and mediastinal veins, one at the tip of the anal areolet, and one extending along the discal transverse vein to the border; cu-

bital and præbrachial veins slightly diverging between the transverse veins, parallel from the discal transverse to the tip; discal transverse nearly straight, very slightly oblique, parted by its length from the præbrachial transverse, and by hardly more than half its length from the border. *Fem.* Oviduct depressed, obconical, ferruginous, black at the tip, about half the length of the abdomen.

Generally distributed. (E. S. I.)

10. **marginata**, Fal. Ortal. 7, 8 (1820); Meig.! Zw. v. pl. 49. f. 15; Mcq.; Loew; Boie; Zett.—*Linariæ*, Desv. Cervino-tomentosa, capite flavo, antennis luteis, *alis albis, maculis quatuor anticis fasciæque una cinereis*, abdomine cinereo-tomentoso fasciis testaceis, pedibus fulvis, oviductu nigro. Long.  $1\frac{1}{2}$ ; alar.  $3\frac{1}{2}$  lin.

Head yellow. Antennæ pale luteous; third joint nearly linear, truncated at the tip, full twice the length of the second. Thorax with fawn-coloured tomentum. *Wings white, with five grey spots in front, the third forming a band across the wing, covering the transverse veins, and including one or two white dots*; cubital and præbrachial veins hardly diverging between the præbrachial transverse and the tip; discal transverse nearly upright, hardly curved outward, parted by little more than half its length from the præbrachial transverse, and by a little less from the border. Halteres white. Abdomen black, with cinereous tomentum; hind borders of the segments testaceous. Legs pale tawny. *Fem.* Oviduct short, flat, obconical, black, shining.

Generally distributed. (E. S. I.)

11. **guttularis**, Meig. Zw. v. 341. 44 (1826); Mcq.; Loew; Zett.—*capitata*, Fal.—*flavipes*, Desv.—*brunicosa*, Desv. Fusco-tomentosa, capite antennisque luteis, *scutello et oviductu nigris nitidis, alis fuscis lim-pido-guttatis*, pedibus fulvis, femoribus nigris. Long.  $1\frac{1}{2}$ –2; alar. 3–4 lin.

Body with brown tomentum. Head luteous, testaceous beneath. Antennæ luteous; third joint nearly linear, rounded at the tip, much longer than the second. Scutellum and metathorax black, shining. Wings dark brown, with a few white dots in the disc, and more along the border; cubital and præbrachial veins hardly diverging between the præbrachial transverse and the tip; discal transverse upright, nearly straight, parted by less than its length from the præbrachial transverse, and by almost half its length from the border. Abdomen with a whitish dorsal stripe, and with whitish bands on the hind borders of the segments. Legs tawny; femora black, with tawny tips. *Fem.* Oviduct lanceolate, convex, black, shining, much shorter than the abdomen.

Not common. (E.)

12. **Absinthii**, F. S. A. 322. 30 (1805); Meig.! Zw. v. pl. 50. f. 12; Mcq.; Loew; Boie; Zett.—*punctella*, Fal.—*millefolii*? Desv.—*Alethe*, Newm. Cinereo-tomentosa, capite pedibusque fulvis, antennis luteis, *alis albis, guttis nonnullis fuscisque duabus connexis albo-guttatis fuscis*, oviductu ferrugineo. Long.  $1\frac{1}{4}$ – $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$ –3 lin.



Body with cinereous tomentum. Head tawny. Antennæ luteous; third joint conical, longer than the second. *Wings white, with brown dots, and with two broad irregular brown bands, which enclose white dots, and are connected in the disc*; cubital and præbrachial veins hardly diverging between the transverse veins, almost parallel between the discal transverse and the tip; discal transverse almost straight and upright, parted by a little less than its length from the præbrachial transverse, and by much less than half its length from the border. Halteres whitish. Legs tawny. *Fem.* Oviduct short, flat, obconical, ferruginous, shining.

Generally distributed. (E. S. I.)

13. **parietina**, L. Fn. 1863 (1761); F.; Gme.; Meig.! Zw. pl. 50. f. 7; Mcq.; Loew; Boie; Zett.—*pantherina*, Fal.—*cinerea*, Desv. Cervino-tomentosa, capite luteo, *alis albis, guttis nonnullis fuscisque tribus albo-guttatis fuscis*, pedibus testaceis, oviductu nigro. Long.  $1\frac{1}{4}$ – $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$ –3 lin.

Body with fawn-coloured tomentum. Head luteous. Antennæ paler; third joint nearly linear, rounded at the tip, longer than the second. *Wings white, with three brown bands; first basal; third apical; these bands contain some white and testaceous dots, and the white part has also some brown dots*; cubital and præbrachial veins nearly parallel from the præbrachial transverse to some distance beyond the discal transverse, very slightly diverging from thence to the tip; discal transverse upright, curved outward, parted by a little less than its length from the præbrachial transverse, and by hardly half its length from the border. Halteres and legs testaceous. *Fem.* Oviduct short, flat, obconical, black.

Not rare. (E.)

14. **corniculata**, Fal. Ortal. 8. 11 (1820); Meig.; Zett.; Mcq.; Loew; Boie.—*Jaceæ*, Desv. Testacea, *alis albis, guttis nonnullis fuscisque tribus connexis albo-guttatis fuscis, abdomine fusco-quadrinaculato*. Long. 3; alar. 7 lin.

Testaceous. Third joint of the antennæ linear, obliquely truncated at the tip, much longer than the second. *Wings white, with three brown bands; first with some darker brown spots in front, connected in the disc with the second; third apical, connected in front with the second; these bands contain white dots, and there are a few brown dots on the white part*; cubital and præbrachial veins hardly diverging between the transverse veins; cubital indistinctly undulating, but nearly parallel to the præbrachial between the discal transverse and the tip; discal transverse nearly upright, slightly curved outward, parted by much less than its length from the præbrachial transverse, and by hardly half its length from the border. *Abdomen elliptical; fourth and fifth segments with two brown spots on each.*

Not rare. (E.)

15. **Bardanae**, Schr. Faun. Boie, iii. 2524 (1798); Meig.; Loew; Zett.—*confusa*, Meig.—*plantaris*? Desv.—*Heraclei*? Meq. Cinereo-tomentosa, capite antennis pedibusque fulvis, *alis albis, guttis nonnullis fasciisque duabus albo-guttatis fuscis*, oviductu ferrugineo. Long.  $2\frac{1}{4}$ ; alar. 4 lin.

Body with cinereous tomentum. Head and antennæ tawny. Third joint of the antennæ linear, obliquely truncated at the tip, much longer than the second. *Wings white, with a few brown dots, and with two irregular brown bands, which contain some white dots; first angular, oblique, covering the transverse veins; second near the tip, broader than the first*; cubital and præbrachial veins slightly diverging between the transverse veins, hardly diverging from the discal transverse to the border; discal transverse almost straight and upright, parted by less than its length from the præbrachial transverse, and by nearly half its length from the border. Legs tawny. Fem. Oviduct short, flat, obconical, ferruginous.

Not rare. (E.)

16. **Leontodontis**, D. G. I. vi. 24. 17. pl. 2. f. 15–18 (1752); Schr.; Fal.; Meig.! Zw. v. pl. 50. f. 8; Meq.; Loew; Boie; Zett.—*parietina*, F.—*Scabiosa*, F.—*stellata*? Sulz.; Fuessly; Pz.—*confusa*? Meig.—*claripennis*, Desv. Cinereo-tomentosa, capite testaceo, antennis pedibusque fulvis, *alis albis, fasciis duabus latis connexis postice albo-guttatis fuscis*, oviductu nigro. Long.  $1\frac{3}{4}$ ; alar.  $3\frac{1}{2}$  lin.

Body with cinereous tomentum. Head testaceous. Antennæ tawny; third joint linear, rounded at the tip, much longer than the second. *Wings white, with two broad brown bands, which are connected in the disc, and are full of white dots hindward*; cubital and præbrachial veins very slightly diverging from the præbrachial transverse to the tip; discal transverse upright, hardly curved outward, parted by much less than its length from the præbrachial transverse, and by less than one-third of its length from the border. Halteres whitish. Legs tawny. Fem. Oviduct short, obconical, black, shining.

Generally distributed. (E. S. I.)

17. **stellata**, Fuessly, Verz. ii. 25 (1794); Sulz.; Loew; Boie.—*radiata*, F.; Schr.; Pz.! Fn. ciii. 21; Meig.; Meq.; Zett.—*terminata*, Fal.; Meig.—*Calcitrapæ*, Desv.—*Parisiensis*, Desv. Albido-tomentosa, capite antennis pedibusque fulvis, *alis albis macula subapicali radiata fusca*. Long.  $\frac{3}{4}$ – $1\frac{1}{4}$ ; alar. 2– $2\frac{1}{2}$  lin.

Body with whitish tomentum. Head and antennæ tawny. *Wings white, a broad brown band, with some more or less complete white dots about it near each tip*; cubital and præbrachial veins hardly diverging between the præbrachial transverse and the border; discal transverse nearly straight and upright, parted by a little less than its length from the præbrachial transverse, and by hardly half its length from the

border. Halteres whitish. Legs tawny. *Fem.* Oviduct flat, lanceolate, black, shining, shorter than the abdomen.

Generally distributed. (E. S. I.)

18. **cornuta**, F. E. S. iv. 357. 186 (1792); Fal.; Meig.; Curt. ! B. E. pl. 231; Mcq.; Loew; Boie; Zett. *Viridi-testacea*, capite luteo, *thoracis disco cinereo-tomentoso nigro-trivittato*, scutello flavo, *alis limpidis fasciis quatuor testaceis cinereo-marginatis*, oviductu fulvo apice nigro. Long. 3-4; alar. 6-7 lin.

*Greenish-testaceous.* Head luteous. Antennæ paler; third joint conical, longer than the second. *Disc of the thorax with grey tomentum, and with three slender black stripes.* Scutellum yellow. Metathorax black. *Wings limpid, with four grey-bordered testaceous bands;* first irregular, shortened hindward; fourth apical, mostly brown; cubital and præbrachial veins very slightly diverging between the transverse veins, slightly converging between the discal transverse and the tip; discal transverse oblique, nearly straight, parted by more than its length from the præbrachial transverse, and by less than half its length from the border. Halteres pale yellow. Legs testaceous. *Fem.* Oviduct flat, lanceolate, long, tawny, with a black tip.

Not rare in the south of England. (E.)

19. **Arctii**, D. G. I. vi. 21. 16. pl. 2. f. 6-14 (1752); Fal.; Meig.; Mcq.; Loew; Zett.—*punctata*, Schr.; Loew?—*solstitialis*, Pz. ! Fn. ciii. 22.—*Juceæ*, Desv.—*dorsalis*, Desv.; Mcq.—*pusilla*, Desv.—*cylindrica*? Desv.—*abdominalis*, Desv. *Testacea, thoracis disco fusco, alis limpidis, fasciis quatuor testaceis cinereo-marginatis.* Long. 1½-2; alar. 3-4 lin.

*Testaceous.* Third joint of the antennæ conical, much longer than the second. *Disc of the thorax brown.* Metathorax black. *Wings limpid, with four irregular grey-bordered testaceous bands;* first irregular and extending along the veins to the base; fourth apical; cubital and præbrachial veins parallel between the transverse veins, and nearly parallel between the discal transverse and the tip; discal transverse upright, slightly curved outward, parted by more than its length from the præbrachial transverse, and by hardly half its length from the border. *Fem.* Oviduct flat, lanceolate, rather long, black towards the base.

Generally distributed. (E. S. I.)

20. **solstitialis**, L. Fn. 1879 (1761); F.; Gmel.; Latr.; Fal.; Lam.; Meig. ! Zw. v. pl. 49. f. 10; Mcq.; Zett.; Loew; Boie.—*Dauci*, F.; Gmel.—*hastata*, F.—*stylata*, F.; Gmel.; Meig.—*Cirsii*, Schr.—*Leucacanthi*, Schr.—*Jacobææ*, Pz.; Fal.—*aprica*, Fal.; Meig.—*cuspidata*, Meig.; Mcq.—*pugionata*, Meig. *Atra, capite scutelloque flavis, antennis luteis, alis albis fusco nonnunquam quadrifasciatis, pedibus fulvis, oviductu longissimo.* Long. 2½-4; alar. 5 lin.

Black, shining. Head yellow; vertex pale luteous. Antennæ lu-

teous, almost reaching the epistoma; third joint nearly linear, oblique at the tip, much longer than the second. Scutellum yellow. *Wings white, with four brown bands; first and second occasionally imperfect or wanting; fourth apical, connected in front with the third;* cubital and præbrachial veins hardly diverging between the transverse veins; cubital curved and slightly converging towards the præbrachial between the præbrachial transverse and the tip; discal transverse upright, hardly curved outward, parted by nearly twice its length from the præbrachial transverse, and by one-third of its length from the border. Halteres white. Legs tawny. *Fem. Oviduct* cylindrical, obconical at the base, *much longer than the abdomen.*

Not rare. (E.)

21. **aprica**, Fal. Ortal. 7. 7 (1820); Meig.; Loew; Zett.—*solstitialis*, F. Nigra, capite scutelloque flavis, *alis albis nigro-quadrifasciatis*, pedibus fulvis, *oviductu* cylindrico *abdominis longitudine*. Long.  $2-2\frac{1}{2}$ ; alar.  $3\frac{1}{2}-4$  lin.

Black, shining. Head yellow. Antennæ luteous; third joint linear, rounded at the tip, much longer than the second. Scutellum yellow. *Wings white, with four brown bands; fourth apical, connected in front with the third;* cubital and præbrachial veins slightly diverging between the transverse veins, hardly converging between the discal transverse and the tip; discal transverse nearly upright, very slightly curved outward, parted by much more than its length from the præbrachial transverse, and by less than half its length from the border. Halteres white. Legs tawny. *Fem. Oviduct* cylindrical, obconical at the base, *as long as the abdomen.*

Common. (E.)

22. **Cardui**, L. Fn. 1876 (1761); D. G.; F.; Gmel.; Schr.; Latr.; Lam.; Meig.! Zw. pl. 49. f. 9; Mcq.; Loew; Boie; Zett.—*flexuosa*, Germ.—*Reaumurii*, Desv.—*liturata*, Desv.—*Sonchi*, Desv.—*Centaureæ*, Desv.—*Dejeanii*, Desv. Nigra, capite scutello tibiis tarsisque flavis, *alis albis fasciis quatuor latis connexis nigris*, oviductu cylindrico. Long.  $2-2\frac{1}{2}$ ; alar. 4–5 lin.

Black, shining. Head yellow; vertex reddish. Antennæ luteous, not near reaching the epistoma; third joint conical, brown at the tip, a little longer than the second. Scutellum yellow. *Wings white, with four black bands; first connected with the second, and third with the fourth in front; second connected with the third behind;* cubital and præbrachial veins slightly diverging between the transverse veins, slightly curved and almost parallel from the discal transverse to the tip; discal transverse straight and upright, parted by more than its length from the præbrachial transverse, and by more than half its length from the border. Halteres whitish. *Legs yellow; femora black.* *Fem. Oviduct* cylindric-conical, rather long.

Not rare. (E.)

The following additional species of *Trypeta* have been recorded as British :—

- |                       |                          |
|-----------------------|--------------------------|
| 1. Westermanni, Meig. | 11. flavicauda, Meig.    |
| 2. Colon, Meig.       | 12. gemmata, Meig.       |
| 3. Wiedemanni, Meig.  | 13. irrorata, Fal.       |
| 4. Lappæ, Meig.       | 14. Winthemi, Meig.      |
| 5. Tussilaginis, F.   | 15. rotundiventris, Fal. |
| 6. Lychnidis, F.      | 16. Plantaginis, Hal.    |
| 7. discoidea, F.      | 17. Pini, Hal.           |
| 8. signata, Meig.     | 18. electa, Meig.        |
| 9. laticauda, Meig.   | 19. Asteris, Hal.        |
| 10. Hyoscyami, L.     |                          |

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#### SUBFAMILY 5. SEPSIDES.

*Carpomyzæ* p., Latr. *Ortalides* p., Fal. *Thelidomydæ* p., Desv.

*Corpus angustum, cylindricum. Caput subproductum, postice latum. Frons lata. Oculi rotundi, remoti. Proboscis magna, rugosa, apice lata. Palpi longi, graciles, setosi, aut vix conspicui. Antennæ breves; articulus tertius ovatus, secundo longior, sextus nudus aut vix pubescens. Thorax longi-ovatus. Alæ angustæ; venæ subcostalis et mediastinalis non conjunctæ; areolæ pabrachialis et analis sat longæ. Abdomen nonnunquam petiolatum. Pedes plus minusve elongati; coxæ anticæ longæ.*

Body narrow, cylindrical. Head slightly produced, broad behind. Front broad. Eyes of moderate size, nearly round, remote. Proboscis large, rugose, broad at the tip. Palpi long, slender, bristly, hardly visible in some species. Antennæ short; third joint oval or nearly round, longer than the second; sixth bare or hardly pubescent. Wings narrow; *subcostal and mediastinal veins distinct; pabrachial and anal areolets rather long. Abdomen occasionally petiolated. Legs generally elongated; fore coxæ long.*

The *Sepsides* in the larva state generally feed on decaying matter. They may be divided into the following genera :—

*a. Abdomen distinctly petiolated.*

*b. Wings spotted. Fore femora and fore tibiæ of the male with teeth and spines beneath. SEPSIS.*

*b b. Wings unspotted.*

*c. Fore femora and fore tibiæ of the male with teeth and spines beneath; middle tarsi dilated. Metatarsus of the female compressed at the base. ENICITA.*

*c c. Legs simple in both sexes. NEMOPODA.*

*a a. Abdomen sessile.*

b. Legs of moderate length.

c. Scutellum of the metathorax developed. THEMIRA.

c c. Scutellum of the metathorax obsolete. SALTELLA.

b b. Legs long. CALOBATA.

### Genus I. SEPSIS.

SEPSIS p., Fal.; Meig.; Wied.; Latr.; Curt. *Musca* p., E. S.; Gmel.; Schr.; Pz.; Coq. *Tephritis* p., F. S. A. *Micropeza* p., Latr. *Micropeza*, Desv.

*Metathoracis scutellum bene determinatum. Alæ apice nigro-maculatæ.* Abdomen subpetiolatum, convexum, arcuatum, apice subtus incurvum; segmentum primum longum, apice supra tumidum. Pedes graciles; tibiæ arcuatæ. *Mas.* Abdomen subclavatum. *Femora tibiæque antica subtus dentata et spinosa. Fem.* Abdomen longiovatum.

*Scutellum of the metathorax distinct. Wings with a black spot at each tip;* costal vein ending on the hind border at a short distance from the tip of the wing; subcostal ending before one-third of the length; mediastinal ending before half the length; radial ending at about seven-eighths of the length; cubital ending at the tip; præbrachial diverging from the cubital between the transverse veins, slightly converging to it between the discal transverse and the tip; discal transverse nearly straight, parted by much more than its length from the præbrachial transverse and from the border. Abdomen slightly petiolated, convex, arched, incurved beneath at the tip; first segment long, tumid at the tip. Legs slender; tibiæ slightly curved. *Male.* Abdomen subclavate. *Fore femora and fore tibiæ dentate and spinose beneath.*

1. **cynipsea**, L. S. N. ii. 997. 113 (1767); D. G.; Scop.; F.; Schr.; Gmel.; Oliv.; Latr.; Fal.; Meig.; Mcq.; Zett.—*fulgida*, Desv. Nigro-viridis, *pedibus nigris*, antennis fuscis, alis hyalinis, abdomine cupreo purpureoque micante. Long.  $1-1\frac{1}{2}$ ; alar.  $1\frac{3}{4}-2\frac{1}{4}$  lin.

Greenish-black. Head æneous-black behind. Antennæ brown; arista black. Thorax æneous on each side. Wings limpid. Halteres yellow. Abdomen somewhat cupreous, with a purple band on each segment. *Legs black*; coxæ brown; fore coxæ red; femora brown at the base and at the tips; fore tibiæ brown with red tips; middle tibiæ with brown tips. Var.  $\beta$ . *Male.* Scutellum of the metathorax æneous. Var.  $\gamma$ . *Male.* Abdomen wholly cupreo-æneous. Var.  $\delta$ . *Male.* Abdomen æneous; first and second segments with blue bands; fore tibiæ and metatarsi red. Var.  $\epsilon$ . *Fem.* Abdomen cupreous; first segment æneous-green on the hind border, second purple on the disc; hind femora red at the base.

Generally distributed, and abundant from the spring to the autumn; sometimes in great swarms. (E. S. I.)

2. **punctum**, F. E. S. iv. 351. 159 (1792); Coq.; Schell.; Oliv.; Latr.; Fal.; Meig.; Mcq.; Zett.—*stigma*, Pz. l. Fn. lx. 21.—*cynipsea*, Desv. Nigro-viridis, antennis fuscis, alis hyalinis, abdomine purpureo basi aureo, *pedibus rufis*. Long.  $1\frac{3}{4}$ –2; alar.  $2\frac{1}{2}$ – $2\frac{3}{4}$  lin.

Blackish-green. Head black in front; face red. Antennæ brown; arista black. Sides of the thorax, scutellum of the metathorax, and abdomen shining, the latter coppery-purple, gilded at the base. Wings limpid. Halteres yellow. *Legs red*; posterior femora with brown bands; hind tibiæ brown; tarsi and middle tibiæ with brown tips. Var.  $\beta$ . *Male*. First abdominal segment reddish-green. Var.  $\gamma$ . *Male*. Fore femora and anterior tibiæ with brown bands. Var.  $\delta$ . *Fem*. Abdomen with purple bands. Middle tibiæ and hind tarsi brown.

Generally distributed. (E.)

The following additional species of *Sepsis* have been recorded as British; some of them are probably mere varieties:—

1. *fulgens*, Hoffm.
2. *flavimana*, Meig.
3. *hilaris*, Meig.—*vivida* var? Desv.
4. *maculipes*, Walk.
5. *concinna*, Walk.
6. *ruficornis*, Meig.
7. *nigripes*, Meig.—*nitida*, Desv.
8. *violacea*, Meig.—*pygmæa* var.? Desv.
9. *ornata*, Meig.
10. *duplicata*, Hal.

## Genus II. ENICITA.

ENICITA, Westw. Class. Ins. i. 148 (1839). *Sepsis* p., Meig.; Curt.; Zett.

*Metathoracis scutellum bene determinatum. Alæ immaculatæ. Abdomen pubescens, subpetiolatum, convexum, arcuatum, incurvum, segmento primo longo. Pedes graciles, pubescentes; tibiæ subarcuatæ. Mas. Abdomen cylindricum, apice cornubus duobus instructum. Femora antica subtus dentata et spinosa. Tibiæ anticæ subtus bidentatæ. Tarsi intermediæ dilatati. Fem. Abdomen longi-ovatum. Pedes simplices; metatarsi basi compressi.*

*Scutellum of the metathorax distinct. Wings unspotted; costal vein ending on the hind border at a short distance from the tip of the wing; subcostal ending at about one-fourth of the length; mediastinal ending at hardly beyond one-third of the length; radial ending at three-fourths of the length; cubital ending at the tip; præbrachial diverging from the cubital between the transverse veins, very slightly converging to it*

from the discal transverse to the tip; discal transverse straight, nearly upright, parted by full twice its length from the præbrachial transverse, and by much more than its length from the border. Abdomen pubescent, slightly petiolated, convex, arched, curved beneath at the tip. Legs slender, pubescent; tibiæ slightly curved. *Male.* Abdomen cylindrical, with two appendages at the tip. Fore femora dentate and spinose beneath. Fore tibiæ bidentate beneath. Intermediate tarsi dilated. *Fem.* Legs unarmed; metatarsi compressed at the base.

1. **annulipes**, Meig. Zw. v. 292. 1. 6 (1826); Curt. ! B. E. 245; Mcq. Nigra (*mas*) aut nigro-ænea (*fem.*), antennis fuscis, alis subfuscis (*mas*) aut subhyalinis (*fem.*), pedibus nigris. Long.  $1\frac{1}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Æneous-black. Antennæ brown, red at the base; arista black. Sides of the thorax, scutellum of the metathorax, and abdomen shining; first and second abdominal segments somewhat cupreous. Halteres yellow. Legs black; coxæ yellow; femora æneous-black, yellow at the base. *Male.* Head and disc of the thorax black. Wings slightly brown. Tibiæ marked with yellow above at the tips; anterior tibiæ brown; middle tarsi deep black; first and second joints white at the base. *Fem.* Wings almost limpid. Middle tarsi black; first joint yellow. Var.  $\beta$ . *Male.* First and second abdominal segments æneous-green; third and fourth æneous-black.

Not common. (E. I.)

### Genus III. NEMOPODA.

NEMOPODA, Desv. E. M. 743 (1830); Mcq. *Musca* p., F. E. S. *Calobata* p., F. S. A. *Sepsis* p., Fal.; Meig.

Corpus vix setosum. Palpi longi, graciles, setosi. *Metathoracis scutellum bene determinatum.* *Alæ immaculatæ.* Abdomen pubescens, subpetiolatum, convexum, arcuatum, apice subtus incurvum; segmentum primum longum, apice supra tumidum. *Pedes* graciles, non setosi, in utroque sexu simplices; tibiæ subarcuatæ; metatarsi longi. *Mas.* Abdomen subclavatum. *Fem.* Abdomen longi-ovatum.

Body with very few bristles. Palpi long, slender, bristly. *Scutellum of the metathorax distinct.* *Wings unspotted;* costal vein ending on the hind border at a short distance from the tip of the wing; subcostal ending at hardly beyond one-fourth of the length; mediastinal ending at beyond one-third of the length; radial ending at five-sixths of the length; cubital ending at the tip; præbrachial very near the cubital before the præbrachial transverse, diverging much from it between the transverse veins, slightly converging to it from the discal transverse to the tip; discal transverse straight, very slightly oblique, parted by



nearly twice its length from the præbrachial transverse, and by about its length from the border. Abdomen slightly petiolated, convex, arched, pubescent, curved beneath at the tip; first segment long, tumid above on the hind border. *Legs* slender, not bristly, *unarmed in both sexes*. Metatarsi long. *Male*. Abdomen subclavate. *Fem*. Abdomen elongate-oval.

1. **cylindrica**, F. E. S. iv. 336. 104 (1792); Meig.; Mcq.; Zett. —*nitidula*, Fal.—*putris*, Desv. Nigro-ænea, antennis rufis, thoracis lateribus antice et postice rufis, alis hyalinis apice obscuris, abdomine æneo-cupreo, pedibus flavo-fuscis. Long.  $1\frac{3}{4}$ – $2\frac{1}{4}$ ; alar.  $2\frac{1}{2}$ – $2\frac{3}{4}$  lin.

Æneous-black. Head black in front; epistoma red. Antennæ red; arista black, red at the base. Sides of the thorax and scutellum of the metathorax æneous, shining, the former red in front and beyond. Wings limpid, yellowish at the base, brownish at the tips. Halteres white. Abdomen æneo-cupreous, shining. Legs yellow; posterior femora brown in the middle; hind tibiæ brown; middle tibiæ pale brown above; tarsi brown, the anterior yellowish-brown at the base. Var.  $\beta$ . *Male*. Middle tibiæ brown.

Generally distributed. (E. S. I.)

The following additional species of *Nemopoda* have been recorded as British:—

- |                               |                              |
|-------------------------------|------------------------------|
| 1. <i>stercoraria</i> , Desv. | 3. <i>tarsalis</i> , Walk.   |
| 2. <i>nigricornis</i> , Meig. | 4. <i>fumipennis</i> , Walk. |

#### Genus IV. **THEMIRA**.

**THEMIRA**, Desv. E. M. (1830); Mcq. *Musca* p., F.; Schr.; Gmel. *Sepsis* p., Fal.; Meig.; Curt.; Zett.

Arista pubescens, basi crassa. *Metathoracis scutellum bene determinatum. Alæ immaculatæ. Abdomen vix petiolatum, depressum. Mas. Abdomen fere lineare, apice plerumque setosum; segmentum primum longum. Femora et tibiæ antica subtilis dentata et spinosa. Fæm. Abdomen longi-ovatum; segmenta subæqualia.*

Body nearly linear. Sixth joint of the antennæ pubescent, stout at the base. Scutellum of the metathorax distinct. *Wings unspotted*; costal vein ending on the hind border at a short distance from the tip of the wing; subcostal ending at a little before one-third of the length; mediastinal ending before half the length; radial ending beyond five-sixths of the length; cubital ending at the tip; præbrachial diverging from the cubital between the transverse veins, slightly converging to it from the discal transverse to the tip; discal transverse straight, almost upright, parted by more than twice its length from the præbrachial transverse, and by nearly its length from the border. Abdomen nearly

sessile, depressed. Legs slender. *Male*. Abdomen almost linear, generally bristly at the tip; first segment long. Fore femora and fore tibiæ dentate and spinose beneath. *Fœm*. Abdomen elongate-oval, segments of nearly equal size.

1. **putris**, L. S. N. ii. 793. 89 (1767); Scop.; F.; Gmel.; Fal.; Meig.; Mcq.; Hal.; Zett.—*fineti* var., L.—*fineti*, Schr. Atra vel nigro-ænea, nitida, alis subhyalinis aut subfuscis; *Mas*, hypopygio brevius setoso, metatarso antico brevi incrassato. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$ ; alar.  $2\frac{3}{4}$ –3 lin.

Black, shining. Wings almost limpid; costa black. Halteres yellow, brown at the base; tarsi covered beneath with brown down. *Male*. Tufts of curled hairs on each side of the hypopygium not half so long as the abdomen.

Generally distributed. (E. S. I.)

2. **pilosa**, Desv. E. M. 746. 1 (1830).—*superba*, Hal. Nigra aut nigro-ænea, nitida, alis sublimpidis; *Mas*, hypopygio longius setoso, metatarso antico longissimo. Long.  $1\frac{1}{4}$ ; alar. 2 lin.

Black, shining. Wings almost limpid; costa black. Halteres yellow. Tarsi covered beneath with brown down. *Male*. Tuft of hairs on each side of the hypopygium as long as the abdomen. Fore femora twisted and armed below with four spinous teeth in a cluster; fore tibiæ deeply notched, with a strong tooth on the inner side; above this a spine, a small tooth nearer the base; before the tip on the outer side is a long spine; fore metatarsus very long and straight, the next joint is the shortest. *Var*. Body æneous-black.

Not common. (E. I.)

3. **minor**, Hal. E. M. i. 170 (1833). Nigra, nitida, alis sublimpidis aut subfuscis; *Mas*, hypopygio nudo, tarsis simplicibus. Long.  $\frac{3}{4}$ –1; alar.  $1\frac{1}{2}$ – $1\frac{3}{4}$  lin.

Black, shining. Wings almost hyaline or slightly brown. Halteres yellow. Abdomen æneous-black. *Male*. Hypopygium bare. Fore femora with a few bristles below; fore tibiæ with a bifid spine about the middle.

Generally distributed. (E. S. I.)

4. **Leachi**, Meig. Zw. v. 291. 14 (1826). Nigra, nitida, alis sublimpidis, maris abdomine apice setoso, pedibus basi rufis. Long. 2; alar. 4 lin.

Black, shining. Wings almost hyaline. Halteres yellow. Legs red at the base. *Male*. Hypopygium bristly; fore femora and fore tibiæ dentate beneath.

Rare. (E.)

Genus V. **SALTELLA.**

SALTELLA, Desv. E. M. 74 (1830). *Pandora*, Hal. *Piophila* p., Fal. *Anisophysa*, Mcq.

Frons lata, glabra, setosa. Epistoma subdescendens, foveolatum, mystacinum. Oculi rotundi, remoti. Antennæ incumbentes; articulus tertius ellipticus, compressus; sextus nudus. *Metathorax occultus*. Alæ incumbentes (erectæ vibrantes). Abdomen oblongum, depressum, glabrum.

Front broad, smooth, bristly. Face convex, carinated. Eyes round, remote. Proboscis thick. Palpi very small, terminated by a seta. Antennæ incumbent, reposing in deep foveolæ; the third joint elliptical, compressed; sixth bare. Scutellum of the metathorax extending to the abdomen. *Metathorax concealed*. Wings small, incumbent, narrowed to the tip, vibrating when erect; costal vein ending on the hind border very near the tip of the wing; subcostal ending before one-third of the length; mediastinal ending before half the length; radial ending before five-sixths of the length; cubital ending at the tip; præbrachial slightly diverging from the cubital between the transverse veins, slightly converging to it from the discal transverse to the tip; discal transverse straight and upright, parted by much more than its length from the præbrachial transverse, and by less from the border. Abdomen nearly sessile, oblong, depressed, smooth. Legs short, unarmed; femora slightly clavate; tibiæ straight.

1. **nigripes**, Desv. E. M. 747. 2 (1830).—*basalis*, Hal. Nigra, *antennis fuscis, scutello apice rufo*, alis albis, abdomine nigro-æneo, *pedibus basi flavis*. Long.  $1\frac{1}{2}$ ; alar.  $1\frac{2}{3}$  lin.

Black. Proboscis brown, with a red tip. *Antennæ brown*; arista black. *Scutellum of the metathorax with a red tip*. Wings white; veins pale brown. Halteres brown. Abdomen æneous-black, shining. *Posterior femora at the base and coxæ yellow*.

Not common. (E. I.)

2. **scutellaris**, Fal. Heterom. 10. 3 (1820); Meig.; Zett.—*stellata*? Hal. Nigra, *capitis maculis duabus, antennis, humeris, scutello, abdominis basi, tibiis intermediis femoribusque fulvis*, alis sublimpidis. Long.  $1\frac{1}{2}$ ; alar.  $2\frac{1}{4}$  lin.

Black. Head with two tawny spots behind. Antennæ, humeral scapulæ, and scutellum tawny. Wings nearly limpid. Abdomen at the base, middle femora, fore femora beneath, and hind femora, except the tips, tawny. Middle tibiæ mostly tawny.

Not common. (E. I.)

Var. ? *sellata*, Hal. A. N. H. ii. 186 (1839). *Fæm.* Nigra, *antennis fuscis, scutello aterrimo, coxis pallidis*.

Genus VI. **CALOBATA.**

**CALOBATA**, F. S. A. (1805); Fal.; Meig.; Mcq.; Zett. *Musca* p., F. E. S.; Gmel.; Schell.; Schr. *Ceyx*, Dumr. *Calobata* et *Nerius*, Desv.

Corpus longum, gracillimum, vix setosum. *Caput oblongum*. Frons subproducta. Facies valde obliqua. Oculi magni. *Proboscis crassa, exerta*. Palpi breves. Antennæ brevissimæ; articulus tertius subrotundus, secundo paullo longior; sextus pubescens. Thorax longisubellipticus. Alæ angustæ. Abdomen thorace multo longius, apice attenuatum. Pedes longi, graciles, nudi. *Fem. Oviductus latus*. ♀

Body long, very slender, with very few bristles. *Head oblong*. Front rather produced. Face very oblique. Epistoma and peristoma not prominent. Eyes large. *Proboscis* thick, *exserted*. Palpi short. Antennæ very short, not near reaching the epistoma; third joint nearly round, a little longer than the second; sixth setaceous, stout, pubescent. Thorax long-subelliptical; transverse suture distinct. *Wings narrow*; costal vein ending at very little beyond the tip of the wing; subcostal ending at very little beyond one-third of the length; medias-tinal ending at very little beyond half the length; radial ending beyond five-sixths of the length; cubital diverging from the præbrachial between the transverse veins, curved towards it near the tip; discal transverse nearly straight and upright, parted by full thrice its length from the præbrachial transverse, and by full half its length from the border. *Abdomen linear*, much longer than the thorax, attenuated towards the tip. Legs long, slender, bare. *Fem. Oviduct broad*.

*Note.* The separation of the subcostal and mediastinal veins is much less apparent in *C. cibaria* than in *C. petronella*, and is still more indistinct in *C. ephippium*.

*a.* Thorax with two black stripes. Species 1.

*a a.* Thorax with ferruginous shoulders. Species 2.

*a a a.* Thorax red. Species 3.

1. **cibaria**, L. Fn. 1859 (1761); Schr.; Gmel.; Meig.; Mcq.; Zett.—*cothurnata*, Fal.—*Solidaginis*, Desv.—*soror*, Desv. Cinereo-tomentosa, capite subtus albo, antennarum articulo tertio luteo, *thorace nigro-bivittato, alis limpidis*, abdominis apice pedibusque testaceis, femoribus posterioribus apice fuscis. Long. 3; alar. 6 lin.

Black, with cinereous tomentum. Head white beneath and about the eyes. Antennæ black; third joint luteous. *Thorax with two blackish stripes. Wings quite limpid.* Halteres whitish. Abdomen testaceous at the tip. Legs testaceous; tips of posterior femora brown.

*Male.* Frontalia red. *Fem.* Frontalia luteous.

Generally distributed. (E. S. I.)

2. **petronella**, L. Fn. 1856 (1761); F.; Schell.; Schr.; Gmel.;

Fal. ; Meig. ; Mcq. ; Zett.—*corrigiolata*, Fal. Cinereo-tomentosa, capite subtus albo, antennarum articulo tertio ferrugineo, *humeris ferrugineis alis subcinereis*, abdominis apice pedibusque ferrugineis. Long.  $3\frac{1}{2}$ —4; alar. 7—8 lin.

Black, with cinereous tomentum. Head white beneath and about the eyes. Frontalia bright red. Antennæ black; third joint ferruginous. *Thorax with a ferruginous scapula on each shoulder. Wings slightly grey.* Halteres testaceous. Abdomen ferruginous towards the tip. Legs ferruginous. *Var.* Legs tawny; tips of posterior femora darker.

Generally distributed. (E. S. I.)

3. **ephippium**, F. E. S. iv. 338. 108 (1792); Fz. ! Fn. xxvii. 21; Fal. ; Meig. ; Mcq. ; Zett.—*Inulæ*, Desv. Nigra, capite albo-tomentoso subtus fulvo, *thorace rufo, alis limpidis apice nigricantibus*, pedibus testaceis, femoribus posticis nigro-bifasciatis. Long.  $2\frac{1}{4}$ ; alar. 4 lin.

Black. Head with white tomentum, tawny beneath. Frontalia deep black. *Thorax red. Wings limpid, with blackish tips.* Legs testaceous; hind femora with two black bands.

Not rare. (E.)

The following additional species of *Calobata* have been recorded as British :—

1. *cothurnata*, Fz.

2. *sellata*, Meig.

#### SUBFAMILY VI. PSILIDES.

*Opomyzides* p., Fal. *Loxocerides*, Hal. *Piophilides* p., Hal. *Neriides* p., Hal. *Loxoceridæ*, Bigot. *Psilomydæ*, Bigot. *Piophilidæ*, Bigot. *Alarum venæ subcostalis et mediastinalis conjunctæ; radialis apicem fere attingens, discalis transversa prope marginem; areolæ pabrachialis et analis distinctæ, longæ. Metatarsi postici graciles.*

*Subcostal and mediastinal veins united. Radial vein extending nearly to the tip. Discal transverse vein near the border. Pabrachial and anal areolets distinct, long. Hind metatarsi slender.*

The genera may be grouped thus :—

a. Head very long. MICROPEZA.

a a. Head transverse.

b. Abdomen clavate. TETANURA.

b b. Abdomen not clavate.

c. Third joint of the antennæ four times the length of the second. LOXOCERA.

c c. Third joint of the antennæ about twice the length of the second.

d. Antennæ reaching the epistoma. CHYLIZA.

- d d.* Antennæ not near reaching the epistoma. **PROPHILA.**  
*c c c.* Third joint of the antennæ a little longer than the second.  
*d.* Body very long. **LISSA.**  
*d d.* Body moderately long. **PSILA.**

### Genus I. **MICROPEZA.**

**MICROPEZA**, Meig. Zw. v. 382 (1826); Mcq.; Zett. *Musca* p., F. E. S.; Schr. I. A.; Gmel. *Calobata* p., F. S. A.; Fal.; Latr. *Rhagio* p., Schr. F. B. *Phantasma*, Desv.

*Corpus* longum, nudum, *gracillimum*. *Caput longissimum, cuneiforme*. *Proboscis non exerta*. Palpi subclavati. Antennæ brevissimæ; articulus tertius subrotundus, secundo paullo longior; sextus nudus. Thorax longi-fusiformis. *Alæ breves, angustæ*. *Abdomen sublineare*, thorace plus duplo longius. Pedes longissimi, gracillimi. *Fem. Oviductus linearis*.

*Body* long, bare, *extremely slender*. *Head very long, cuneiform*, with a few bristles, about twice longer than broad. Frontalia very narrow. Front porrect. Face very oblique. Eyes elongate. *Proboscis short*, thick, *not exerted*. Palpi subclavate. Antennæ very short; third joint nearly round, a little longer than the second; sixth setaceous, slender, bare. Thorax elongate-fusiform. *Wings short, very narrow*; costal vein ending at the tip of the wing; subcostal ending at about one-sixth of the length; radial ending at one-fifth of the length; cubital and præbrachial slightly diverging to beyond the discal transverse, slightly converging from thence to the border; discal transverse straight, upright, parted by full four times its length from the præbrachial transverse, and by more than its length from the border. *Abdomen nearly linear*, more than twice the length of the thorax. Legs very long and slender; tibiæ with very short bristles. *Fem. Oviduct linear*.

1. **corrigiolata**, L. S. N. ii. 995 (1767); F.; Schr.; Gmel.; Meig.; Mcq.; Zett.—*filiformis*, F.; Fal.; Latr.; Desv. Nigra, capite subtus et antennarum articulo sexto albis, alis subcinereis, abdomine flavo-fasciato, pedibus fulvis, femoribus posterioribus fusco-bifasciatis, tarsis fuscis. Long. 4; alar. 4 lin.

Black, with slight glaucous tomentum. Head white beneath. Antennæ black; sixth joint white. Wings slightly greyish. Halteres white. Hind borders of the abdominal segments with yellow bands, which are most conspicuous beneath. Legs tawny; posterior femora with two brown bands near the tips; tarsi brown.

Not rare. (E.)

*Micropeza lateralis* and *Tetanura pallidiventrīs* have been recorded as British species.

Genus II. **LOXOCERA.**

LOXOCERA, F. S. A. 202 (1805); Latr.; Fal.; Meig.; Mcq.; Desv.; Zett. *Syrphus* p., F. E. S. *Mulio* p., F. E. S. Suppl. *Nemotelus* p., Schr. *Musca* p., Gmel.; Pz.

Corpus perangustum, fere cylindricum. Caput subquadratum. Facies valde obliqua. *Antennæ capite longiores; articulus tertius linearis, secundo quadruplo longior.* Thorax longi-subquadratus. Alæ sat angustæ. Abdomen gracillimum, thorace multo longius. Pedes graciles, sat longi. *Mas.* Abdomen lineare, cylindricum. *Fœm.* Abdomen lanceolatum, compressum.

Body very narrow, nearly cylindrical, slightly pubescent, without bristles. Head subquadrate, slightly prominent. Front slightly convex. Face very oblique. Epistoma and peristoma not prominent. *Antennæ longer than the head; third joint linear, very slender, about four times the length of the second; sixth setiform, pubescent, stout, as long as the third.* Thorax elongate, subquadrate. Wings rather narrow; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending at much before half the length; radial ending at about seven-eighths of the length; cubital and præbrachial slightly diverging between the transverse veins; præbrachial slightly angular at its junction with the transverse veins, more curved than the cubital, and slightly diverging from it towards the tip; discal transverse nearly upright, slightly curved outward, parted by twice its length from the præbrachial transverse, and by more than half its length from the border. Abdomen very slender, very much longer than the thorax. Legs slender, almost bare, rather long. *Male.* Abdomen linear, cylindrical. *Fem.* Abdomen lanceolate, compressed, longer than in the male.

1. **ichneumonea**, L. Fn. 1809 (1761); F.; Gmel.; Latr.; Fal.; Meig.; Mcq.; Desv.; Zett.—*albisetus*, Schr.—*aristata*, Pz. ! Fn. lxxiii. Nigra, antennis basi ferrugineis, arista testacea, *thorace rufo nigro-bivittato*, alis sublimpidis, pedibus fulvis; *Mas*, *abdomine thorace duplo longiore*; *Fœm.* *abdomine thorace triplo longiore.* Long.  $3\frac{1}{2}$ –5; alar.  $5\frac{1}{2}$ –7 lin.

Black, shining. *Antennæ* black; first and second joints ferruginous; arista testaceous. *Thorax* red, more or less black in front, and with two black discal stripes. Wings with a slight lurid tinge, or nearly limpid. Halteres pale yellow. Legs tawny; hind tarsi and tips of anterior tarsi brown. *Male.* *Abdomen twice the length of the thorax.* *Fem.* *Abdomen thrice the length of the thorax.*

Common. (E. S.)

2. **sylvatica**, Meig. Zw. v. 365. 3 (1826); Mcq.; Zett. Nigra, antennis basi ferrugineis, arista testacea, *thorace rufo nigro-univittato*,

alis sublimpidis, pedibus fulvis; *Mas*, abdomine thorace non duplo longiore; *Fœm.* abdomine thorace plus duplo longiore. Long.  $2\frac{1}{2}$ -3; alar. 5 lin.

Black, shining. Antennæ ferruginous at the base; arista testaceous. Thorax red; disc in front black, whence a black stripe extends nearly to the scutellum. Wings nearly limpid. Halteres pale yellow. Legs tawny; tarsi darker. *Male.* Abdomen less than twice the length of the thorax. *Fem.* Abdomen a little more than twice the length of the thorax.

Not rare. (E.)

*L. elongata*, Meig., has been recorded as a British species.

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### Genus III. LISSA.

LISSA, Meig. Zw. v. 370 (1826); Mcq.; Zett. *Ocyptera* p., F. *Chyliza* p., Fal.

*Corpus* cylindricum, sublineare, longissimum, gracillimum. *Caput* transversum, subquadratum. *Antennæ* breves; articulus tertius secundo paullo longior. *Alæ* parvæ. *Pedes* sat breves; *femora* postica crassa, subtilus spinosa.

*Body* cylindrical, nearly linear, very long and slender. *Head* subquadrate, transverse. Front concave. Face vertical. Epistoma and peristoma not prominent. *Antennæ* short, not near reaching the epistoma; third joint conical, a little longer than the second; sixth setiform, long, slender, pubescent. Thorax elongate-quadrate. Wings small; costal vein ending on the hind border very near the tip of the wing; subcostal ending at a little beyond one-third of the length; mediastinal ending at a little before half the length; radial ending at a little before five-sixths of the length; cubital and præbrachial very slightly diverging between the transverse veins, and more slightly converging from the discal transverse to the border; discal transverse straight, upright, parted by more than twice its length from the præbrachial transverse, and by full half its length from the border. Abdomen linear, narrower than the thorax, and more than twice its length. Legs rather short, pubescent, without bristles. *Hind femora* thick, armed with spines beneath.

1. *dolium*, F. S. A. 315. 12 (1805).—*loxocerina*, Fal.; Meig.; Mcq.; Zett. Nigra, antennis fulvis, articulo sexto albido, alis limpidis, pedibus fulvis, femoribus anticis apice tibiisque anticis fuscis, tarsis anticis nigris. Long. 4; alar.  $5\frac{1}{2}$  lin.

Black, shining. Head and thorax beneath, and sutures of the abdomen with white tomentum. Antennæ tawny; sixth joint whitish. Wings limpid. Halteres pale yellow. Legs tawny; fore tibiæ and tips of fore femora brown; fore tarsi black.

Not common. (E.)

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Genus IV. **CHYLIZA.**

CHYLIZA, Fal. Opomyz. (1820); Meig.; Mcq.; Zett. *Sargus* p., F. *Musca* p., Pz. *Dasya*, Desv.

Corpus angustum, sat longum. *Caput transversum. Antennæ epistoma attingentes; articulus tertius secundo duplo longior.* Alæ mediocres. Abdomen thorace longius. Pedes graciles. *Mas.* Abdomen lineare. *Fem.* Abdomen fusiforme.

Body narrow, rather long, pubescent, not bristly. *Head short.* Front nearly flat. Face vertical. Epistoma and peristoma not prominent. *Antennæ reaching the epistoma; third joint conical, about twice the length of the second; sixth setiform, slender, pubescent, twice the length of the third.* Thorax elongate-subquadrate. Wings moderate; costal vein ending on the hind border very near the tip of the wing; subcostal ending before half the length; radial ending at about seven-eighths of the length; præbrachial diverging from the cubital between the transverse veins, very slightly converging to it from the discal transverse to the border; discal transverse straight and upright, parted by more than twice its length from the præbrachial transverse, and by full half its length from the border. Abdomen longer than the thorax. Legs slender, pubescent, without bristles. *Male.* Abdomen linear. *Fem.* Abdomen fusiform.

1. **scutellata**, F. E. S. Suppl. 567. 5 (1794).—*leptogaster*, Pz. ! Fn. liv. 19; Fal.; Meig.; Mcq.; Zett. Nigra, capite antice subtusque flavo, antennis fulvis basi supra fuscis, scutello fulvo, alis limpidis, pedibus flavis. Long. 3; alar. 6 lin.

Black, slightly pubescent. Head yellow in front and beneath, and with a transverse tawny spot behind the ocelli. Antennæ tawny, brown above towards the base; sixth joint black. Scutellum tawny. Wings limpid, brown at the tips. Halteres whitish. Legs yellow.

Not common. (E.)

The following additional species have been recorded as British:—

1. *atriseta*, Meig.

2. *annulipes*, Mcq.

Genus V. **PSILA.**

PSILA, Meig. Zw. v. 35 (1826); Zett. *Musca* p., F. E. S.; Gmel.; Schr. I. A.; Schell.; Pz. *Tephritis* p., F. S. A. *Scatophaga* p., F. S. A., Fal. *Volucella* p., Schr. *Psilomyia*, Latr.; Mcq. *Oblicia*, Desv.

Corpus sublineare, sat longum. *Caput non longum.* Facies valde obliqua. *Antennæ breves; articulus tertius secundo paullo longior.*

Alæ sat angustæ. Abdomen thorace longius. Pedes graciles, sat longi.

Body nearly linear, *rather long*, shining, almost bare. Head slightly prominent in front, *not broader than long*. Face very oblique. Epistoma and peristoma not prominent. Eyes oblong. Proboscis thick. Palpi subelavate. *Antennæ* short, not near reaching the epistoma; *third joint* conical, *a little longer than the second*; sixth plumose or pubescent. Thorax fusiform. Wings rather narrow; costal vein ending on the hind border at some little distance from the tip of the wing; subcostal ending at about one-third of the length; radial ending at about seven-eighths of the length; cubital ending at the tip; præbrachial curved and nearly parallel to it. Abdomen linear, lanceolate, or fusiform, longer than the thorax. Legs slender, without bristles, rather long.

The *Psilæ* frequent herbage. The species may be thus characterized:—

*a. Arista plumose. Species 1.*

*a a. Arista pubescent.*

*b. Body pale.*

*c. Wings greyish. Species 2.*

*c c. Wings slightly testaceous. Species 3.*

*b b. Abdomen black. Species 4.*

*b b b. Body black. Species 5.*

1. **finetaria**, L. Fn. 1862 (1761); F.; Schr.; Gmel.; Latr.; Fal.; Meig.; Mcq.; Zett.—*flava*, Schell.; Pz. Fn. ! xx. 22.—*testacea*, Desv. Testacea, capite antice subтусque alido, *arista plumosa*, alis subflavescentibus, abdomine fulvo. Long. 4; alar. 8 lin.

Testaceous. Head whitish in front and beneath. *Arista plumose*, black at the base. Wings slightly yellowish; præbrachial vein slightly diverging from the cubital between the transverse veins, curved and nearly parallel to it between the discal transverse and the tip; discal transverse upright, nearly straight, parted by nearly four times its length from the præbrachial transverse, and by one-third of its length from the border. Abdomen fusiform, tawny.

Generally distributed. (E. S. I.)

2. **rufa**, Hoffm.; Meig. Zw. v. 357. 3 (1826); Zett. *Ferruginea*, alis subcinereis, venis transversis infuscatis, pedibus fulvis. Long.  $2\frac{3}{4}$ ; alar.  $5\frac{1}{2}$  lin.

*Ferruginous*. Head testaceous beneath. *Wings greyish*; *transverse veins slightly clouded with brown*; præbrachial vein almost straight and very slightly converging to the cubital between the discal transverse and the tip; discal transverse parted by more than twice its length from the præbrachial transverse, and by a little less than its length from the border. Legs tawny. *Fem.* Abdomen oblanceolate.

Rare. (S.)

3. **pallida**, Fal. Opomyz. 9. 2 (1820); Meig.; Mcq.; Zett. *Testacea, alis subtestaceis*. Long. 3; alar. 6 lin.

*Testaceous*. Head paler beneath. Arista pubescent, black at the base. *Wings slightly testaceous*; præbrachial vein slightly curved and parallel to the cubital between the discal transverse and the tip; discal transverse parted by nearly thrice its length from the præbrachial transverse, and by full one-third of its length from the border. *Male*. Abdomen linear. *Fem.* Abdomen oblanceolate.

Not common. (E. S.)

4. **bicolor**, Meig.! Zw. v. 358. 4. pl. 51. f. 13 (1826); Mcq.; Zett.—*pallida* var.  $\beta$ , Fal. *Testacea, alis limpidis, abdomine nigro*. Long. 2–3; alar. 4–6 lin.

*Testaceous*. Arista pubescent. Wings limpid; præbrachial vein slightly curved and diverging from the cubital towards the tip; discal transverse slightly oblique, parted by four times its length from the præbrachial transverse, and by almost half its length from the border. *Abdomen black*. *Male*. Abdomen linear. *Fem.* Abdomen oblanceolate, compressed towards the tip, which is tawny.

Not rare. (E.)

5. **Rosæ**, F. E. S. iv. 356. 181 (1792); Fal.; Meig.; Mcq.; Zett.; Curt. *Nigra, capite fulvo, alis limpidis, pedibus testaceis*. Long.  $1\frac{1}{2}$ –2; alar. 3–4 lin.

*Black*. *Head tawny*, testaceous beneath. Third joint of the antennæ black; sixth testaceous, pubescent. Wings limpid; præbrachial vein slightly curved beyond the discal transverse, diverging from the cubital towards the tip; discal transverse nearly straight and upright, parted by much more than twice its length from the præbrachial transverse, and by full half its length from the border. Halteres whitish. Legs testaceous. *Male*. Abdomen nearly linear. *Fem.* Abdomen fusiform.

Common. (E. S. I.)

The following additional species have been recorded as British:—

1. *pectoralis*, Fal.

3. *nigra*, Fal.

2. *nigricornis*, Meig.

4. *atra*, Meig.

## Genus VI. PIOPHILA.

PIOPHILA, Fal. Heterom. (1820); Meig.; Mcq.; Zett. *Musca* p., F. E. S.; Gmel. *Tephritis* p., F. S. A. *Tyrophaga*, Kby.; Curt.

Corpus lineare, non elongatum. *Caput subrotundum*. *Antennæ epistoma non attingentes; articulus tertius secundo duplo longior*. Alæ subangustæ. Abdomen thorace paullo longius. Pedes longitudine mediocres.

Body linear, moderately long, shining, not bristly. *Head nearly*

round. Face slightly oblique. Epistoma and peristoma not prominent. *Antennæ* short, not reaching the epistoma; third joint a little longer than broad, about twice the length of the second; sixth bare. Wings rather narrow; costal vein ending on the hind border at a short distance from the tip of the wing; subcostal ending at a little beyond one-third of the length; radial ending at hardly five-sixths of the length; cubital ending at the tip; præbrachial very near the cubital before the præbrachial transverse, diverging much from it between the transverse veins, and parallel to it from the discal transverse to the tip; discal transverse nearly straight and upright, parted by a little more than its length from the præbrachial transverse, and by much less than its length from the border. Abdomen nearly linear, a little longer than the thorax. Legs pubescent, of moderate length.

The larvæ of the *Piophilæ* feed on animal substances, and leap very actively, as is described in the following extract:—"When the larva prepares to leap, it first erects itself upon its anus, and then bending itself into a circle by bringing its head to its tail, it pushes forth its unguiform mandibles, and fixes them in two cavities in its anal tubercles; it next contracts its body into an oblong, so that the two halves are parallel to each other; it then lets go its hold with so violent a jerk that the sound produced by its mandibles may be readily heard, and the leap takes place."

1. **casei**, L. Fn. 1850 (1761); Fal.; Meig.; Curt.! B. E. 126; Mcq.; Zett.—*putris* var., Gmel. Nigro-ænea, capite luteo, antennis nigris basi luteis, *alis albis*, pedibus fulvis, anticis piceis, *femoribus posticis piceo-cinctis*. Long. 2; alar. 4 lin.

THE CHEESE FLY.—Æneous-black. Head luteous; vertex black. Proboscis piceous. Antennæ black, luteous towards the base. *Wings white; veins whitish*. Halteres testaceous. Legs tawny; fore legs mostly piceous. Hind femora with a piceous band.

Generally distributed. (E. S. I.)

2. **luteata**, Hal. E. M. i. 169 (1833).—*petasionis*, Léon Duf. Nigra, nitida, capite pleuris pectore pedibusque posterioribus luteis, *alis subflavescentibus, femoribus tibiisque posticis fusco-cinctis*. Long. 2; alar.  $3\frac{3}{4}$  lin.

THE BACON FLY.—More robust than *P. casei*. Legs shorter and thicker. Wings shorter, yellowish, with thick yellow veins. Back of the thorax, scutellum, and the entire abdomen shining greenish-black. Fore legs blackish, with the knees and base of the tibiæ yellowish; hind femora and tibiæ with brown rings; tips of the tarsi dusky.

Generally distributed. (E. S. I.)

The following additional species have been recorded as British:—

1. *atrata*, F.

3. *nigricornis*, Meig.

2. *nigrimana*, Meig.

4. *nigriceps*, Meig.

SUBFAMILY VII. OSCINIDES.

OSCINIDES, Hal. *Oscinides* p., Fal.; Zett. *Heteromyzides* p., Mcq. *Oscinidæ*, Bigot.

*Alarum venæ subcostalis et mediastinalis conjunctæ; radialis ab apice remota. Metatarsi postici graciles.*

*Subcostal and mediastinal veins united; radial vein not extending beyond three-fourths of the length of the wing. Hind metatarsi slender.*

The *Oscinides* comprise the following genera:—

|                           |                      |  |   |              |
|---------------------------|----------------------|--|---|--------------|
| Third joint<br>of antennæ | { long; second joint | { long . . . . .                           | 1. PLATYCEPHALA.  |              |
|                           |                      | { short . . . . .                          | 2. CAMAROTA.  |              |
|                           | { short :            | { Hind femora thick; hind tibiæ curved . . | 3. MEROMYZA.  |              |
|                           |                      | { Hind leg straight<br>and slender .       | { Cubital vein ending at the<br>tip of the costal . . .   | 4. CHLOROPS. |
|                           |                      |  | { Præbrachial vein ending at<br>the tip of the costal . . | 5. OSCINIS.  |

Genus I. **PLATYCEPHALA.**

PLATYCEPHALA, Fal. Oscinid. (1820); Meig.; Mcq.; Curt.; Westw.; Zett. *Musca* p., F. E. S. *Oscinis* p., F. S. A.

Corpus mediocre. Caput supra depressum. Frons conica, valde producta. Facies perobliqua. *Antennæ porrectæ; articulus secundus longus, oblique truncatus; tertius elongato-conicus, secundo vix longior; quintus longus; sextus pubescens, quinto triplo longior.* Thorax punctatus. Abdomen thorace paullo longius. *Femora postica crassa; tibiæ posticæ arcuatæ.*

Body moderately long. Head flat above. Front conical, much produced. Face extremely oblique, almost horizontal. Proboscis and palpi short. *Antennæ porrect; second joint long, obliquely truncated; third elongate-conical, hardly longer than the second; fifth long; sixth pubescent, rather stout, about thrice the length of the fifth.* Thorax thickly punctured. Wings of moderate size; costal vein ending on the fore border at a little distance in front of the tip of the wing; subcostal ending at beyond one-third of the length; radial ending at a little beyond two-thirds of the length; cubital ending at the tip of the costal; præbrachial ending on the hind border at some little distance from the tip; præbrachial ending before two-thirds of the length of the hind border; discal transverse straight, slightly oblique, parted by its length from the præbrachial transverse, and by near thrice its length

from the border. Abdomen a little longer than the thorax. Legs of moderate length. *Hind femora thick. Hind tibiæ curved.*

1. **umbraculata**, F. E. S. iv. 348. 148 (1792); Meig.; Mcq.; Zett.—*agrorum*, Fal. Ferruginea, capite pectore ventre pedibusque fulvis, thorace fulvo-bivittato, alis sublimpidis, halteribus albidis. Long. 2–3; alar. 3–5 lin.

Ferruginous. Under side, head, and legs tawny. Thorax with two tawny stripes. Wings nearly limpid; veins tawny. Halteres whitish.

Not common. (E.)

*P. planifrons*, F., has been recorded as British.

## Genus II. **CAMAROTA.**

CAMAROTA, Meig. Zw. vi. 7 (1830); Mcq.; Westw.

Corpus breve, latum, convexum, nudum. Caput conicum, depressum.

*Antennæ longæ; articuli primus et secundus breves; tertius elongato-conicus; arista pubescens, valida.* Thorax punctatus. *Alæ mediocres; vena radialis nulla.*

Body short, broad, convex, bare. Head conical, nearly as broad as the thorax; disc above flat and triangular. *Antennæ long; first and second joints short; third elongate-conical; arista pubescent, very stout,* more slender at each end, longer than the third joint. Thorax longer than broad; scutellum semicircular. *Wings* of moderate size; costal vein ending at some little distance in front of the tip of the wing; subcostal ending at much before half the length; *radial vein none;* cubital curved upward and ending a little before the tip of the costal; præbrachial ending at hardly in front of the tip; præbrachial transverse nearly straight, very oblique, parted by twice its length from the discal transverse and from the border. Abdomen not longer than the thorax, with six distinct segments. Legs of moderate length.

1. **flavitaris**, Meig. Zw. vi. 7. 1 (1830); Mcq.—*aurifrons*, Hal. Nigra, capite antennisque luteis, alis cinereis, halteribus piceis, pedibus fulvis, femoribus tibiisque nigro-variis. Long.  $\frac{2}{3}$ –1; alar.  $1\frac{1}{3}$ –2 lin.

Black. Head luteous. Antennæ paler; third joint towards the tip and arista black. Thorax minutely punctured. Wings grey; veins black. Halteres piceous. Legs tawny; femora and tibiæ more or less black.

Rare. (E.)

## Genus III. **MEROMYZA.**

MEROMYZA, Meig. Zw. vi. 163 (1830); Mcq.; Westw.; Zett. *Musca* p., L.; F. E. S.; Schr.; Gmel. *Tephritis* p., F. S. A. *Oscinis* p., Fal.

Corpus sat longum. Frons producta. Facies obliqua. *Antennæ breves; articulus tertius fere rotundus; arista gracilis, nuda. Femora postica crassa; tibiæ posticæ arcuatæ.*

Body rather long. Head not broader than long. Front produced. Face oblique. Proboscis and palpi short. *Antennæ* not reaching the epistoma; *third joint nearly round*, longer than the second; *sixth slender, bare*. Wings rather narrow; costal vein ending at about four-fifths of the length of the wing; subcostal ending at one-third of the length; radial ending at beyond half the length; cubital ending at about four-fifths of the length; præbrachial ending on the hind border near the tip; pabrachial ending at beyond half the length; discal transverse straight, upright, parted by a little more than its length from the præbrachial transverse, and by full four times its length from the border. Abdomen longer than the thorax. *Legs* of moderate length. *Hind femora thick. Hind tibiæ curved.*

The *Meromyza* frequent herbage. The species are few in number, and may be thus distinguished:—

a. Thorax with black stripes.

δ. Abdomen longer than the thorax. Species 1.

♂. Abdomen almost twice the length of the thorax. Species 2.

a a. Thorax with pale red stripes. Species 3.

1. **saltatrix**, L. Fn. 2317 (1761); Fal.; Meq.; Zett.—*minuta*, Gmel.; F.—*clavicrus*, Schr.; Gmel. Viridis, antennis supra fuscis, *thorace nigro-trivittato*, alis sublimpidis, *abdomine thorace longiore e maculis nigris trivittato*. Long.  $1\frac{1}{4}$ – $1\frac{3}{4}$ ; alar.  $1\frac{3}{4}$ – $2\frac{1}{4}$  lin.

Pale-green. Head with a forked luteous mark in front. Front less produced than in *M. pratorum*; a black dot on the vertex. *Antennæ* brown, pale green beneath and towards the base. *Thorax with three black stripes*. Wings nearly limpid. *Abdomen longer than the thorax, with three rows of black dots.*

Common. (E. S. I.)

2. **pratorum**, Meig. Zw. vi. 165. 1 (1830); Meq.; Zett.—*viridula*, Hal. Viridis, antennis piceis, *thorace nigro-trivittato*, alis limpidis, *abdomine thorace fere duplo longiore vitta dorsali maculisque duabus basalibus nigris*, tibiis tarsisque fulvis. Long.  $2\frac{1}{2}$ ; alar. 3 lin.

Pale-green. Head with a forked luteous mark in front; a black dot about the ocelli. *Antennæ* piceous, pale green towards the base. *Thorax with three black stripes*. Wings limpid. *Abdomen almost twice the length of the thorax, with a black dorsal stripe, and with a black dot on each side at the base.* Tibiæ and tarsi tawny.

Common. (E. S. I.)

3. **variegata**, Meig. Zw. vi. 165. 2 (1830); Meq.; Zett. Flava, antennis apice fuscis, *thorace vittis tribus rufis duabusque nigris*, alis sublimpidis, *abdomine e maculis nigris trivittato*. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$ ; alar.  $2\frac{1}{4}$ –3 lin.

Yellow. Vertex pale red; a black dot about the ocelli. Antennæ brown towards the tips. *Thorax with three pale red stripes, and with two black stripes*; metathorax black. Wings nearly limpid. Abdomen with three rows of black dots.

Common. (E. S. I.)

The following additional species of *Meromyza* have been recorded as British:—

1. *femorata*, Mcq.

2. *nigriventris*, Mcq.

#### Genus IV. **CHLOROPS.**

CHLOROPS, Meig. Zw. vi. 138 (1830); Pz.; Mcq. *Oscinis* p., F. S. A.; Schr. F. B.; Latr.; Fal.; Zett. *Musca* p., F. E. S.; Gmel.; Schr. I. A. *Tephritis* p., F.

Corpus breve. Caput transversum. Facies obliqua. *Antennæ brevissimæ; articulus tertius rotundus; arista gracilis nuda. Alæ medio-cres; vena cubitalis costali juncta. Femora postica gracilia; tibiæ posticæ rectæ.*

Body short. Head transverse. Vertex flat. Front prominent. Face oblique. *Antennæ very short*, not near reaching the epistoma; *third joint round*, twice the length of the second; *sixth bare*. *Wings moderately broad*; costal vein ending at a little in front of the tip of the wing; subcostal ending at much beyond one-third of the length; radial ending at three-fourths of the length; *cubital ending at very near the tip of the costal*; præbrachial ending on the hind border near the tip; pobrachial ending at beyond half the length; discal transverse straight, upright, parted by more than twice its length from the præbrachial transverse and from the border. Abdomen obconical. *Legs of moderate length. Hind femora slender. Hind tibiæ straight.*

Some of the species of this genus are excessively abundant, and their larvæ are very injurious to corn.

a. Thorax with five black stripes.

b. Abdomen yellow, with a black spot on each side at the base. Species 1.

b b. Abdomen yellow, with black bands.

c. Vertex with a reddish dot on each side. Species 2.

c c. Vertex with no reddish dots.

d. Head without a black stripe.

e. Legs yellow; tarsi with black tips.

f. Wings nearly limpid. Species 3.

f f. Wings grey. Species 4.

e e. Fore tarsi at the base, and tips of the fore tibiæ black. Species 5.



- eee*. Femora and hind tibiæ mostly black. Species 6.  
*bbb*. Abdomen black; base and tip yellow. Species 7.  
*aaa*. Thorax with three black stripes. Species 8.  
*aaa*. Thorax not striped.  
*b*. Head yellow.  
*c*. Scutellum yellow. Species 9.  
*c*. Scutellum black. Species 10.  
*b*. Head black. Species 11.

1. **hypostigma**, Meig. Zw. vi. 141. 2 (1830); Mcq.; Zett. Flava, verticis gutta, antennis apice, thoracis vittis quinque, *abdominis guttis duabus basalibus*, tarsisque apice *nigris*, scutello albido, *alis limpidis*. Long.  $\frac{2}{3}$ – $1\frac{1}{4}$ ; alar.  $1\frac{1}{2}$ – $2\frac{1}{2}$  lin.

Yellow. Vertex with a black dot about the ocelli. Antennæ black, yellow at the base. Thorax with three black stripes. Scutellum whitish. *Wings limpid*. *Abdomen with a black dot on each side at the base*. Tips of the tarsi black.

Common. (E. S. I.)

2. **notata**, Meig. Zw. vi. 144. 10 (1830); Zett. Flava, capitis macula triangulari, antennis apice, thoracis vittis quinque, *abdominis maculis duabus basalibus* fascisque *nigris*, *vertice maculis duabus rufescentibus*, scutello pallide flavo, alis subcinereis, tarsis apice *nigris*. Long.  $1\frac{1}{4}$ – $1\frac{3}{4}$ ; alar. 2– $2\frac{3}{4}$  lin.

Yellow. Head black behind, and with a black triangular spot about the ocelli. *Vertex with a pale reddish spot on each side*. Antennæ black towards the tips. Thorax with five black stripes. Scutellum pale yellow. Wings greyish. *Abdomen with a black dot on each side at the base*, and with slender black bands on the fore borders of the segments. Tips of the tarsi black.

Common. (E.)

3. **scalaris**, Meig. Zw. vi. 145. 11 (1830); Mcq.; Zett. Flava, capitis macula, *thoracis vittis quinque*, *abdominis guttis duabus basalibus fascisque angustis nigris*, antennis *nigris* basi flavis, *alis sublimpidis*. Long.  $1\frac{2}{3}$ –2; alar.  $3\frac{1}{3}$ –4 lin.

Yellow. Head black behind, and with a black triangular spot about the ocelli. Antennæ black, yellow towards the base. *Thorax with five black stripes*, and with a black dot on each side in front. Scutellum pale yellow. Pectus with a black spot on each side. *Wings nearly limpid*. *Abdomen with a black dot on each side at the base*, and with very narrow blackish bands on the fore borders of the segments. *Tarsi with black tips*.

Common. (E. S. I.)

4. **nasuta**, Schr. I. A. 475. 966 (1781); Gmel.; Meig.; Mcq.; Zett.—*lineata*, Schr. F. B.; Fal.—*umbelliferarum*, Schr. F. B.; Geoff.; Schell. Flava, capitis macula triangulari, antennis apice thoracis vittis

quinque, *abdominis fasciis* tarsisque apice *nigris*, scutello albedo, *alis cinereis*. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$ ; alar.  $3$ – $3\frac{1}{2}$  lin.

Yellow. Head black behind, and with a black triangular spot about the ocelli. Antennæ black, yellow at the base. Thorax with three broad black stripes. Scutellum whitish. *Wings grey. Abdominal segments with black bands in front.* Tips of the tarsi black.

Common. (E. S. I.)

5. **tæniopus**, Meig. Zw. vi. 144. 9 (1830); Mcq.; Curt.; Zett. Flava, capitis macula triangulari, antennis apice, thoracis vittis quinque, abdominis fasciis, *tibiis anticis* tarsisque apice *tarsisque anticis*, basi *nigris*, scutello albedo, alis subcinereis. Long.  $1\frac{1}{3}$ – $1\frac{3}{4}$ ; alar.  $2\frac{2}{3}$ – $3\frac{1}{2}$  lin.

Yellow. Head black behind, and with a black triangular spot about the ocelli. Antennæ black, yellow at the base. Thorax with five broad black stripes. Scutellum whitish. Wings greyish. Abdominal segments with black bands in front. Tips of the tarsi, *fore tarsi at the base, and tips of the fore tibiæ black.*

Common. (E. S. I.)

6. **cinctipes**, Meig. Zw. vi. 148. 19 (1830). Flava, capitis vitta, thoracis vittis quinque, pectoris maculis sex, abdominis fasciis, *tibiis posticis* femoribusque *nigris*, antennis *nigris* basi flavis, alis subcinereis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Yellow. Head black behind, and with a large black triangular spot, from whence a stripe proceeds to the antennæ. Antennæ black, yellow at the base. Thorax with five black stripes; middle one and inner pair very broad. Scutellum pale yellow. Pectus with three black spots on each side. Wings greyish. Halteres white. Abdomen with slender black bands on the fore borders of the segments. Femora and hind tibiæ mostly black above.

Not rare. (E.)

7. **lineata**, F. Sp. I. ii. 453. 99 (1781); Gmel.; Latr.; Meig.; Mcq.; Zett.—*pumilionis*, F. Flava, capitis macula, thoracis vittis quinque, pectoris maculis sex, abdominisque disco *nigris*, antennis *nigris* basi flavis, alis limpidis. Long.  $\frac{3}{4}$ –1; alar.  $1\frac{1}{2}$ –2 lin.

Yellow. Head black behind, and with a large black triangular spot on the vertex. Antennæ black, yellow at the base. Thorax with five black stripes; the middle one and the inner pair broad. Scutellum pale yellow. Pectus with three black spots on each side. Wings limpid. Halteres white. Abdomen black above; base and tip yellow.

Very abundant; often appears in profusion on windows during the spring. (E. S. I.)

8. **glabra**, Meig. Zw. vi. 149. 20 (1830); Mcq.; Zett. Flava, capitis macula maxima, antennis, thoracis fasciis tribus, abdominis disco tarsisque anticis *nigris*, alis limpidis, femoribus tibiis fusco-strigatis. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

Yellow. Head black behind, and with a very large black triangular

spot, which extends to the antennæ. Antennæ black. *Thorax with three very broad black stripes.* Scutellum whitish-yellow. Pectus with a black spot on each side. Wings limpid. Halteres white. *Abdomen black above, yellow on each side and at the tip. Femora and tibiæ with brown streaks above. Fore tarsi black.*

Not rare. (E.)

9. **Cereris**, Fal. Oscinid. 5. 3 (1820); Meig.; Mcq.; Zett.—*scutellatus*, Pz.—*agnata*, Hal. (var.) *Nigra*, capite, antennis basi, pectore scutello pedibusque flavis, alis limpidis, femoribus posticis supra fusciscentibus, tarsis anticis nigris. Long.  $1\frac{1}{4}$ – $1\frac{1}{2}$ ; alar.  $2$ – $2\frac{1}{2}$  lin.

*Black.* Head yellow, black behind, and with a large black spot on the vertex. Antennæ black, yellow towards the base. *Pectus and scutellum pale yellow*, the former with black spots on each side. Wings limpid. Halteres pale yellow. *Legs yellow; hind tibiæ brownish above; fore tarsi and tips of fore tibiæ black.*

Common. (E. S. I.)

10. **messoria**, Fal. Oscinid. 5. 4 (1820); Meig.; Mcq.; Zett. *Nigra*, capite apud oculos antice subtusque, thoracis lateribus halteribusque pallide flavis, alis vix subcinereis, tibiis tarsisque posterioribus basi genubusque fulvis. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

*Black.* Head pale yellow along the eyes, above, in front, and beneath. Antennæ black, yellow at the base. Thorax with two longitudinal furrows; *sides and pectus pale yellow, with black spots.* Wings very slightly greyish; veins black, tawny at the base; costal vein ending in front at about five-sixths of the length of the wing; radial ending before two-thirds of the length; discal transverse parted by less than its length from the præbrachial transverse, and by four times its length from the border. Halteres white. Posterior tibiæ and tarsi towards the base and knees tawny.

Common. (E. S. I.)

11. **tarsata**, Fal. Oscinid. 5. 5 (1820); Meig.; Zett. *Nigra*, alis sublimpidis, halteribus albidis, tarsis posterioribus tibiis apice genubusque fulvis. Long.  $1\frac{1}{4}$ ; alar. 2 lin.

*Black.* Wings nearly limpid. Halteres whitish. Posterior tarsi except the tips, knees and tips of tibiæ tawny.

Not common. (E.)

The following additional species of *Chlorops* have been recorded as British:—

- |                               |                              |
|-------------------------------|------------------------------|
| 1. <i>gracilis</i> , Meig.    | 7. <i>cingulata</i> , Meig.  |
| 2. <i>brunnicornis</i> , Mcq. | 8. <i>circumdata</i> , Meig. |
| 3. <i>confluens</i> , Meig.   | 9. <i>lateralis</i> , Hal.   |
| 4. <i>læta</i> , Meig.        | 10. <i>fulvifrons</i> , Hal. |
| 5. <i>fasciata</i> , Meig.    | 11. <i>clongata</i> , Meig.  |
| 6. <i>speciosa</i> , Meig.    |                              |

Genus V. **OSCINIS.**

OSCINIS, Mcq. *Oscinis* p., F. S. A. (1805); Latr.; Fal.; Zett. *Musca* p., F. E. S.; Gmel. *Madiza* p., Fal.; Zett. *Chlorops* p., Meig.

Corpus sat breve, sublineare. Caput transversum; vertex planus. Frons prominens. Facies obliqua. *Antennæ brevissimæ; articulus tertius subrotundus*; arista nuda. *Alæ subparvæ; vena præbrachialis costali juncta*. Abdomen subellipticum. *Pedes mediocres, postici femoribus gracilibus tibiisque rectis*.

Body rather short, nearly linear. Head transverse; vertex flat. Front prominent. Face oblique. *Antennæ very short, not near reaching the epistoma; third joint nearly round, twice the length of the second; sixth bare*. *Wings* rather small; costal vein ending at the tip of the wing; subcostal ending at much beyond one-third of the length; radial ending at about three-fourths of the length; cubital ending at a little in front of the tip; *præbrachial ending at the tip of the costal*; pabrachial ending at much beyond half the length; discal transverse straight, upright, parted by a little more than its length from the præbrachial transverse, and by full twice its length from the border. Abdomen nearly elliptical. Legs of moderate length. *Hind femora slender. Hind tibiæ straight*.

The characters and habits of this genus much resemble those of *Chlorops*. The species may be grouped thus:—

a. Black. Head yellow.

b. Wings grey. Species 1.

b b. Wings limpid. Species 2.

a a. Greenish-black. Species 3.

a a a. Thorax testaceous, with two brown stripes. Species 4.

1. **palposa**, Fal. Oscinid. 6. 7 (1820); Meig.; Mcq.; Zett. *Nigra*, robusta, nitens, *capite antice subtusque antennis genubusque flavis, alis cinereis* sat parvis, halteribus albis. Long.  $1\frac{1}{4}$ ; alar. 2 lin.

*Black, stout, shining. Head yellow in front and beneath. Antennæ yellow. Wings grey, rather short; veins black, testaceous at the base. Halteres white; knees yellow.*

Not common. (E.)

2. **cornuta**, Fal. Oscinid. 6. 6 (1820); Meig.; Mcq.; Zett. *Nigra, capite flavo, thorace cinereo-bivittato, alis limpidis*, halteribus pedibusque flavis. Long. 1; alar. 2 lin.

*Black, dull. Head yellow, with a black dot about the ocelli. Antennæ yellow; fifth and sixth joints black; fifth long; sixth stout. Thorax with two grey stripes. Wings limpid; costal vein ending at a little behind the tip of the wing; subcostal ending at hardly one-third of the length; radial ending at a little beyond two-thirds of the length;*

cubital ending at a little in front of the tip; præbrachial ending at the tip of the costal; pobrachial ending at near two-thirds of the length; discal transverse straight, nearly upright, parted by more than twice its length from the præbrachial transverse, and by about thrice its length from the border. Halteres and legs yellow. Abdomen with four apparent segments; first very long.

Not common. (E.)

3. **maura**, Fal. Oscinid. 6. 8 (1820); Meig.; Mcq.; Zett. *Viridinigra*, arista halteribusque albis, *alis fuscis*, pedibus fulvis, tibiis posticis femoribusque nigris. Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{2}$  lin.

Black, shining, slightly tinged with green. Sixth joint of the antennæ and halteres white. Wings brown; costal vein ending at the tip; subcostal ending at about one-third, and radial at about two-thirds of the length; cubital ending in front near the tip; præbrachial ending at the tip of the costal; pobrachial joining the border; discal transverse straight, nearly upright, parted by more than its length from the præbrachial transverse, and by about thrice its length from the border. Legs tawny; femora and hind tibiæ black.

Common. (E.)

4. **brevipennis**, Meig. Zw. vi. 159. 49. pl. 61. f. 19, 20 (1830). *Testacea*, verticis macula nigra, *thorace fusco-bivittato*, *alis limpidis*, abdomine nigro macula basali testacea. Long.  $1\frac{1}{2}$ ; alar. 2 lin.

Testaceous. Head with a black spot about the ocelli. Sixth joint of the antennæ black. Thorax with a brown stripe on each side. Wings limpid. Abdomen black, with a testaceous spot at the base.

Not common. (E.)

The following additional species of *Oscinis* have been recorded as British:—

- |                             |                              |
|-----------------------------|------------------------------|
| 1. <i>albiseta</i> , Meig.  | 5. <i>Frit?</i> L.           |
| 2. <i>pratensis</i> , Meig. | 6. <i>nigerrima</i> , Mcq.   |
| 3. <i>lævigata</i> , Fal.   | 7. <i>cincta</i> , Meig.     |
| 4. <i>vindicata</i> , Meig. | 8. <i>albipalpis</i> , Meig. |

#### SUBFAMILY VIII. GEOMYZIDES.

GEOMYZIDES, Fal. Geom. (1820).

*Alarum venæ subcostalis et mediastinalis conjunctæ; radialis apicem fere attingens; præbrachialis transversa ab alæ basi remota; areolæ pobrachialis et analis indistinctæ vel nullæ. Metatarsi postici graciles.*

*Subcostal and mediastinal veins united; radial ending at much beyond three-fourths of the length of the wing; præbrachial transverse distant from the base of the wing; pobrachial and anal areolets indistinct or none. Hind metatarsi slender.*

The species of this subfamily are numerous, and of small size; they frequent recent or decaying vegetable substances. The genera here described may be grouped thus:—

|             |  |  |                |
|-------------|--|--|----------------|
| Radial vein | of the usual length.<br>Arista . . . . . | bare. Body bare, more or less metallic . . . . .   | 1. GYMNOPE.    |
|             |  | pubescent. Body pale, with some bristles . . . . . | 2. OPOMYZA.    |
|             |  | thinly plumose on both sides . . . . .             | 3. DIASTATA.   |
|             |  | with five or six bristles on each side . . . . .   | 4. DROSOPHILA. |
|             | very short . . . . .                     |  | 5. ASTEIA.     |

### Genus I. GYMNOPE.

GYMNOPE, Fal. Oscinid. (1820); Meig.; Mcq.; Westw.; Zett. *Syrphus* p., F. E. S. *Eristalis* p., F. S. A. *Madiza* p., Fal.; Zett.

*Corpus parvum, glabrum, nitens, nudum.* Caput transversum, thoracis latitudine. Frons plana. Facies tuberculata. Epistoma prominens. Antennæ facie multo breviores; articulus tertius oblongus; arista gracilis, nuda. Abdomen ovatum vel subellipticum, thorace paullo longius. Pedes mediocres.

*Body smooth, shining, bare.* Head transverse, as broad as the thorax. Front flat. Face tuberculated. Epistoma prominent, angular. Eyes nearly round. Antennæ very short, not near reaching the epistoma; third joint oblong, a little longer than the second; sixth slender, setiform, bare. Thorax more or less convex. Wings of moderate size, or rather short. Præbrachial vein ending at the tip of the costal. Abdomen oval or nearly elliptical, a little longer than the thorax. Legs of moderate length and thickness.

The *Gymnopa* inhabit herbage, and frequently occur on windows.

1. **subsultans**, F. E. S. iv. 304. 96 (1792); Meig.; Mcq.—*ænea*, Fal.; Zett. *Ænea*, antennis nigris, thorace valde convexo, alis limpidis, halteribus albidis, tarsis posticis fulvis. Long. 1; alar. 2 lin.

*Æneous.* Antennæ black. Thorax very convex. Wings limpid; costal vein ending on the hind border near the tip of the wing; subcostal ending before one-third of the length; radial ending at much beyond three-fourths of the length; cubital ending at the tip; præbrachial ending at the tip of the costal; pabrachial angular at its junction with the discal transverse; discal transverse straight, slightly oblique, parted by full twice its length from the præbrachial transverse, and by

a little more than its length from the border. Halteres whitish. Abdomen broad, slightly convex. Hind tarsi tawny.

Not rare. (E.)

2. **glabra**, Fal. Oscinid. 9. 3 (1820); Meig.; Mcq.; Zett. *Nigro-viridis*, sublinearis, *vix convexa*, antennis halteribus pedibusque nigris, alis albis, tarsis fulvis. Long.  $1-1\frac{1}{2}$ ; alar.  $2-2\frac{1}{2}$  lin.

*Blackish-green*, nearly linear, rather slender. *Head and thorax slightly convex*. Antennæ black. Thorax minutely punctured. Wings white; veins whitish; costal vein ending on the hind border at a short distance from the tip; subcostal ending before one-third of the length; radial ending at very near the tip; cubital ending at the tip; præbrachial ending at the tip of the costal; pobrachial hardly angular at its junction with the discal transverse; discal transverse almost straight, slightly oblique, parted by much more than its length from the præbrachial transverse and from the border. Halteres black. Abdomen subfusiform, depressed, a little broader than the thorax. Legs black; tarsi towards the base and hind tarsi tawny.

Very abundant on windows. (E. S. I.)

## Genus II. **OPOMYZA.**

OPOMYZA, Fal. Opomyz. (1820); Meig.; Westw.; Mcq.; Zett.

*Musca* p., F. E. S.; Schr.; Gmel. *Dacus* p., F. S. A. *Tephritis* p., F. *Geomyza* p., Fal.; Zett.

Corpus sat longum, sublineare. *Caput et thorax convexa, subsetosa.*

*Caput* versusum, breve, thoracis latitudine. *Antennæ breves*; articulus tertius rotundus; *arista* longa, gracilis, *pubescens*. Thorax ellipticus. Alæ mediocres vel sat angustæ, plerumque maculatæ. Abdomen lineare. Pedes mediocres.

Body rather long, nearly linear. *Head and thorax convex, beset with a few bristles.* Head transverse, short, as broad as the thorax. Proboscis retracted when at rest. Palpi short. *Antennæ* short; first and second joints minute; third round; fourth and fifth obsolete; *sixth or arista* long, slender, *pubescent*. Thorax elliptical. Scutellum rather large, short-obconical. Wings of moderate length, rather narrow, generally spotted; costal vein ending on the hind border near the tip; subcostal ending at one-fourth of the length of the wing; radial ending at very little in front of the tip; cubital ending at the tip; præbrachial ending at the tip of the costal; pobrachial straight; discal transverse straight, slightly oblique, parted by half its length from the border, and by more than its length from the præbrachial transverse. Abdomen linear, with six or seven segments. Legs of moderate length and thickness.

The *Opomyzæ* abound on herbage.

*a.* Wings moderately broad.

*b.* Thorax with three stripes. Species 1.

*b b.* Thorax not striped. Species 2.

*a a.* Wings narrow.

*b.* Thorax testaceous. Species 3.

*b b.* Thorax ferruginous, partly black. Species 4.

1. **germinationis**, L. Fn. 1874 (1761); F.; Gmel.; Fal.; Meig.; Mcq.; Zett. *Fulva*, capite flavo subtus albido, antennis luteis, *thorace ferrugineo-trivittato*, alis subcinereis fusco variis, abdomine plus minusve piceo. Long.  $1\frac{1}{2}$ –2; alar.  $3$ – $3\frac{1}{2}$  lin.

*Tawny.* Head yellow, whitish in front and beneath. Antennæ luteous. *Thorax with three pale ferruginous stripes.* Wings greyish, of moderate breadth, irregularly clouded with brown along the fore borders and at the tips; transverse veins clouded with brown; discal transverse vein parted by nearly twice its length from the præbrachial transverse. Halteres and legs testaceous. Abdomen with a piceous dorsal stripe, or with piceous bands, or wholly piceous.

Very abundant. (E. S. I.)

2. **florum**, F. E. S. iv. 352. 164 (1792); Meig.; Mcq.; Zett. *Testacea*, alis hyalinis subtestaceis fusco-quadrinaculatis. Long. 2; alar. 4 lin.

*Testaceous.* Wings hyaline, of moderate breadth, with a slight testaceous tinge, clouded with brown at the tips and on the transverse veins, and with a brown spot on the præbrachial vein beyond the discal transverse, which is parted by more than its length from the præbrachial transverse.

Not rare. (E.)

3. **combinata**, L. S. N. ii. 997 (1763); F.; Gmel.; Fal.; Meig.; Mcq.; Zett.—*germinationis*, Schr.—*maculata*, Schr. *Testacea*, alis limpidis angustis fusco-trinaculatis, abdomine plus minusve nigro. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Testaceous.* Wings narrow, limpid, with brown tips, an irregular brown mark on the fore border very near the base; veins testaceous; discal transverse vein clouded with brown, nearly upright, parted by more than twice its length from the præbrachial transverse, and by a little less than its length from the border. Abdomen with black bands, or wholly black except the base.

Abundant. (E. S. I.)

4. **tripunctata**, Fal. Geomyz. 2. 2 (1820); Meig.; Mcq.; Zett. *Ferruginea*, nigro-varia, capite pedibusque fulvis, alis angustis subcinerascens nigris, abdomine nigro. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Ferruginous.* Head tawny. *Thorax varied with black*, with a very slight metallic tinge. Wings hyaline, very slightly greyish, with a



large black spot in front of the tip, with a black spot on each of the transverse veins, and with a black dot on the fore border near the base; discal transverse vein nearly upright, parted by more than twice its length from the præbrachial transverse, and by less than its length from the border. Abdomen black. Legs tawny.

Common. (E. S. I.)

The following additional species of *Opomyza* have been recorded as British:—

- |                            |                         |
|----------------------------|-------------------------|
| 1. marginella, <i>Fal.</i> | 4. tremula, <i>Hal.</i> |
| 2. sabulosa, <i>Hal.</i>   | 5. asteia, <i>Hal.</i>  |
| 3. cinerella, <i>Hal.</i>  | 6. grisea, <i>Fal.</i>  |

### Genus III. **DIASTATA.**

DIASTATA, Meig. Zw. vi. 94 (1830); Mcq.; Zett. *Geomyza* p., *Fal.*

Corpus parvum, sublineare, sat angustum. Caput et thorax convexa, subsetosa. Caput transversum, breve, thoracis latitudine. *Antennæ* facie vix breviores; articulus tertius sublinearis; *arista parce plumosa*. Thorax ellipticus. Alæ sat angustæ. Abdomen thorace paullo longius. Pedes mediocres.

Body nearly linear, rather narrow. Head and thorax convex, with a few bristles. Head transverse, short, as broad as the thorax. *Antennæ* nearly as long as the face; first and second joints very short; third joint nearly linear; fourth and fifth obsolete; *sixth* long, slender, setiform, *thinly plumose on each side*. Thorax elliptical. Scutellum small, obconical. Wings moderately long and narrow; costal vein ending on the hind border near the tip of the wing; subcostal ending at a little beyond one-fourth of the length; radial ending at some little distance in front of the tip; cubital ending at the tip; præbrachial ending at the tip of the costal; discal transverse parted by thrice its length from the præbrachial transverse, and by more than its length from the border. Abdomen with six or seven segments, longer and a little narrower than the thorax. Legs of moderate length and thickness.

The *Diastatæ* inhabit woods.

a. Thorax not striped. Species 1.

a a. Thorax with three stripes. Species 2.

1. **obscura**, *Fal.* *Geomyz.* 4. 6 (1820); Meig.; Mcq.; Zett. *Picea*, capite antennisque luteis, alis subcinereis basi fuscis, halteribus testaceis, pedibus fulvis. Long.  $1\frac{3}{4}$ ; alar. 3 lin.

*Piceous*. Head luteous, whitish in front and beneath. Proboscis and palpi yellow. *Antennæ* luteous. Wings greyish, brown in front near the base; veins black. Halteres pale testaceous. Legs tawny.

Not common; frequents damp and shady woods. (E.)

2. **Punctum**, Meig. Zw. vi. 98. 10 (1830); Mcq.; Zett. *Cana*, capite flavo, antennis nigris basi fulvis, *thorace piceo-trivittato*, alis cinereis fusco-variis, halteribus pedibusque testaceis, abdomine piceo disco fulvo. Long. 1; alar.  $2\frac{1}{2}$  lin.

*Hoary*. Head yellow, whitish in front, beneath, and behind; vertex grey. Antennæ black; first and second joints tawny. *Thorax with three piceous stripes*. Wings brown in front, more slightly so at the tips, grey along the hind borders, almost limpid in the discs; veins black; subcostal vein hardly one-fourth the length of the wing; discal transverse parted by nearly twice its length from the border. Halteres and legs testaceous. Abdomen piceous; disc tawny towards the base.

Not common. (E.)

The following additional species of *Diastata* have been recorded as British:—

1. *fulvifrons*, Hal.

2. *obscuripennis*, Meig.

#### Genus IV. **DROSOPHILA.**

DROSOPHILA, Fal. Geomyz. (1820); Meig.; Mcq.; Westw.; Zett.

*Musca* p., F.; Gmel.; Pz. *Oinopota*, Kby.

Corpus parvum, breve. Caput et thorax convexa, subsetosa. Caput transversum, breve, thoracis latitudine. *Antennæ* facie breviores; articulus tertius sublinearis; *arista setis lateralibus quinque vel sex*. Thorax ellipticus. Alæ mediocres. Abdomen thorace vix longius.

Body small, short. Head and thorax convex, with a few bristles. Head transverse, short, as broad as the thorax. *Antennæ* shorter than the face; first joint very short; second rather short; third rather long, nearly linear, oblique at the tip; *arista* long, slender, setiform, *with five or six hairs on each side*. Thorax elliptical. Scutellum obconical. Wings moderately long and broad; costal vein ending on the hind border at a short distance from the tip; subcostal ending at about one-fifth of the length; radial ending at about four-fifths of the length; cubital ending at the tip of the wing; præbrachial ending at the tip of the costal; discal transverse straight, upright, or slightly oblique, parted by nearly thrice its length from the præbrachial transverse, and by hardly less than its length from the border. Abdomen with seven segments, hardly longer and broader than the thorax. Legs of moderate length and thickness. *Male*. Abdomen linear. *Fem*. Abdomen elliptical or fusiform.

The larvæ of *Drosophila* feed on plants, Boleti, oak-apples, and other substances. Mr. Hardy remarks that all the small species of *Drosophila* are dark (*D. graminum*), and are found upon the *Caryophyllææ*, while the larger kinds only frequent *Cruciferaæ*.

- a. Wings moderately broad.
  - b. Body ferruginous. Species 1.
  - b b. Body testaceous.
    - c. Transverse veins clouded with brown. Species 3.
    - c c. Transverse veins not clouded with brown. Species 4.
- a a. Wings narrow.
  - b. Body tawny. Species 2.
  - b b. Body hoary.
    - c. Thorax striped. Species 5, 6.
    - c c. Thorax not striped. Species 7.

1. **cellaris**, L. Fn. 1848 (1761); F.; Gmel.; Mcq. *Ferruginea, alis subcinereis*, halteribus pedibusque testaceis, abdomine plus minusve piceo. Long.  $1\frac{1}{2}$ ; alar.  $3\frac{1}{2}$  lin.

*Ferruginous. Wings slightly greyish, moderately broad; veins black, tawny towards the base; discal transverse upright. Halteres and legs testaceous. Abdomen with piceous bands or wholly piceous above.*

Abundant; feeds on Boleti and on oak-apples in the larva state, also on the matter adhering to casks of wine or of beer. (E.S.I.)

2. **funebis**, F. E. S. iv. 323. 48 (1792); Gmel.; Fal.; Meig.; Zett.—*erythrophthalma*, Pz. *Fulva, alis subtestaceis sat angustis*, halteribus pedibusque testaceis, abdomine piceo. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

*Tawny, slender. Wings rather narrow, with a very slight testaceous tinge; veins testaceous; discal transverse upright, parted by nearly thrice its length from the præbrachial transverse, and by much more than its length from the border. Halteres and legs testaceous. Abdomen piceous, tawny at the base; of the female fusiform.*

Common. (E.)

3. **transversa**, Fal. Geomyz. 6. 5 (1820); Meig.; Mcq.; Zett.—*phalerata*, Meig.; Mcq. *Testacea, alis subtestaceis sat latis, venis transversis infuscatiss*, halteribus pedibusque testaceis, abdomine fasciis interruptis fuscis. Long.  $1-1\frac{1}{4}$ ; alar.  $2\frac{1}{2}-3$  lin.

*Testaceous. Wings moderately broad, with a testaceous tinge; veins testaceous; cubital and præbrachial veins hardly diverging between the transverse veins, which are clouded with brown; discal transverse vein slightly oblique, parted by twice its length from the præbrachial transverse, and by nearly its length from the border. Halteres and legs pale testaceous. Abdominal segments with brown bands, which are interrupted on the disc. Fem. Abdomen elliptical.*

Common. (E. S. I.)

4. **fenestrarum**, Fal. Geomyz. 6. 4 (1820); Meig.; Mcq.; Zett.—*virginea*, Meig.; Zett. D. S.—*melanogaster*, Meig. *Testacea, alis subtestaceis sat latis*, halteribus albidis; *Mas*, abdomine nigro; *Fem.* abdomine piceo-fasciato. Long. 1; alar.  $2\frac{1}{2}$  lin.

Testaceous. Wings moderately broad, with a slight testaceous tinge; veins testaceous; discal transverse slightly oblique, parted by much more than twice its length from the præbrachial transverse, and by much more than its length from the border. Halteres whitish. Legs pale testaceous. *Male*. Abdomen black. *Fem.* Abdomen elliptical; segments with piceous bands.

Common. (E. S. I.)

The two following species belong to the genus *Scaptomyza* of Hardy, who characterizes it thus:—"Body elongate, rather narrow. Head subtriangulate, moderately transverse behind; sides obliquely sloped, so as to straiten it anteriorly, which contraction slightly affects the fore part of the frontal band; front sparingly bristly; face somewhat slanted, keel moderate; bristles of the peristoma rather scant and short; eyes suboval, finely pubescent; proboscis dilated at the tip. Palpi rather narrow, ovate, or sub-elliptical. Antennæ with the third joint parallelogrammic, its tip rounded (lingulate). Arista with a few long hairs, mostly on the upper side. Thorax somewhat longer than broad, subparallelogrammic, faintly glossy, the colouring striped. Wings nearly as in *Drosophila*, but not so broad. Abdomen subconical, rather long and narrow; its tip in the female slightly compressed, oblique, with shining serrated plates beneath. Larva living as a miner on the parenchyma of leaves."—*Hardy, Proceedings of the Berwickshire Naturalists' Club*, 361, 1849.

5. **graminum**, Fal. Geomyz. 8. 11 (1820); Meig.; Mcq.; Zett. —*Canis*, capite antico, antennis, halteribus pedibusque testaceis, *thorace fusco-trivittato*, *alis* vix subcinereis *angustis*, abdomine piceo. Long. 1; alar.  $2\frac{1}{4}$  lin.

*Hoary*, slender. Head testaceous in front and beneath. Antennæ testaceous. Thorax with three brown stripes. Wings hardly tinged with grey, rather narrow; veins tawny; discal transverse vein upright, parted by full thrice its length from the præbrachial transverse, and by much more than its length from the border. Halteres and legs testaceous. Abdomen piceous; of the female fusiform.

"The larva is subcutaneous in the leaves of the common chickweed (*Stellaria media*), of the corn-cockle (*Lychnis Githago*), of *Coenopodium album*, and of *Viscaria oculata* and *Silene Armeria* in gardens. Its operations are marked by a large shapeless blotch, with smaller winding galleries conducting to it."—*Hardy*.

Common. (E. S. I.)

6. **apicalis**, Hardy, Proc. Berw. Nat. Club, 362. 2 (1849). *Flava*, puncto verticis arista *anorque nigris*, thorace subferrugineo albo vix micante, linea longitudinali marginibusque lateralibus ferrugineis, *alis*

hyalinis venis flavis, tarsorum apicibus vix fuscescentibus; *Mas*, metathorace subcinereo. *Var.* Thoracis dorso cinereo, lineis tribus longitudinalibus fuscis, scutello cinereo flavo-limbato, abdomine superne fusco. Long. 1-1½; alar. 3 lin.

*Yellow.* Dot on the vertex, arista and tip of the abdomen black. Thorax slightly ferruginous, indistinctly shining with white tomentum; longitudinal stripe and sides ferruginous. Wings hyaline; veins yellow. Tips of the tarsi very slightly brownish. *Male.* Metathorax nearly cinereous. *Var.* Dorsum of the thorax cinereous, with three longitudinal brown stripes; scutellum cinereous, bordered with yellow. Abdomen brown above.

"The larva mines the leaves of the turnip and the pea; and on the sea-coast it is found as late as the end of October in those of the common scurvy-grass (*Cochlearia officinalis*), and in the lady's-fingers (*Anthyllis Vulneraria*). It mines sometimes in companies of four or five; but in a small leaf many of these desert the seat of the original colony, and commence a separate establishment. The pupa is brown, darker at the tips and across the lines of the segments, rather narrow, elongate-oval, finely striated transversely, convex above, less so beneath."—*Hardy*.

Common. (S.)

7. **gracilis**, n. *Cana*, *gracillima*, capite luteo, antennis fulvis, alis limpidis angustis, halteribus pedibusque testaceis, abdomine piceo. Long. 1½; alar. 2½ lin.

*Hoary, very slender.* Head luteous, testaceous beneath. Antennæ tawny. *Wings* limpid, rather long and narrow; veins testaceous; discal transverse vein slightly oblique, parted by about twice its length from the præbrachial transverse, and by nearly its length from the border. Halteres and legs testaceous. Abdomen piceous, much longer than the thorax.

Not common. (E.)

The following additional species of *Drosophila* have been recorded as British:—

- |                            |                             |
|----------------------------|-----------------------------|
| 1. ingrata, <i>Hal.</i>    | 4. tristis, <i>Fal.</i>     |
| 2. cameraria, <i>Curt.</i> | 5. littoralis, <i>Meig.</i> |
| 3. transversa, <i>Fal.</i> | 6. flava, <i>Fal.</i>       |

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#### Genus V. **ASTEIA.**

*ASTEIA*, Meig. Zw. vi. 88 (1830); Mcq.; Westw.; Zett.

Corpus gracile, nitens, fere nudum. Caput et thorax convexa. Caput transversum, thorace paullo latius. Antennæ brevissimæ; articulus

tertius subrotundus; arista trisetosa. Thorax ellipticus. *Alæ longæ, vena discalis transversa nulla.* Abdomen thorace paullo longius et angustius. Pedes graciles.

Body slender, shining, almost bare. Head and thorax convex. Head transverse, a little broader than the thorax. Front broad. Face vertical. Eyes nearly round. Antennæ very short; first and second joints very small; third nearly round; arista setiform, very slender, with three hairs on the upper side. Thorax elliptical. *Wings* long, moderately broad; costal vein ending at very little behind the tip of the wing; subcostal ending at about one-fourth of the length; radial ending at hardly one-fourth of the length; cubital ending at the tip; præbrachial very slightly curved upward, ending at the tip of the costal; præbrachial transverse very near the base of the wing; *no discal transverse vein.* Abdomen nearly linear, a little longer and narrower than the thorax. Legs slender.

These insects dwell among herbage; they are very small, and of feeble structure and flight.

1. **amoena**, Meig. Zw. vi. 89. 1 (1830); Mcq.; Zett. Nigra, capite antico, thoracis lateribus scutello pectoreque pallide flavis, antennis, halteribus pedibusque flavis, alis limpidis, abdomine fulvo nigro-vario. Long.  $\frac{3}{4}$ –1; alar.  $2\frac{1}{4}$ – $2\frac{1}{2}$  lin.

Black. Head in front and beneath, sides of the thorax, scutellum, and pectus pale-yellow. Antennæ, halteres, and legs yellow. Wings limpid; veins pale testaceous. Abdomen tawny, more or less black above.

Common; may be frequently found on windows and in haystacks. (E.S.I.)

*Asteia concinna*, Meig., and the following additional genera and species have been recorded as British:—

|                        |                   |                 |
|------------------------|-------------------|-----------------|
| LEUCOPIS, Meig.        | LEPTOMYZA, Mcq.   | TETHNIA, Hal.   |
| 1. puncticornis, Meig. | 1. gracilis, Fal. | 1. illota, Hal. |
| 2. obscura, Hal.       |                   |                 |

#### SUBFAMILY 9. PHYTOMYZIDES.

*Alarum venæ subcostalis et mediastinalis conjunctæ; radialis apicem fere attingens; discalis transversa ab margine remota; areolæ pobrachialis et analis distinctæ, longæ. Metatarsi postici graciles.*

*Subcostal and mediastinal veins united; radial ending at much beyond three-fourths of the length of the wing; discal transverse parted by full twice its length from the border; pobrachial and anal areolets distinct, long. Hind metatarsi slender.*

The species of this subfamily are very numerous, and are all of very small size; their larvæ undermine and feed on the leaves

of many kinds of trees and herbs, which are discoloured by their ravages. Mr. Hardy and M. Goureau have investigated the habits of several species, which are here mentioned, with the plants which they infest :—

|  |  |
|--|--|
| Agromyza Macquarti, Goureau, feeds on <i>Verbascum Thapsus</i> . |  |
| „ Iræos, Desv.   | „ <i>Iris Pseudacorus</i> .  |
| „ Medicaginis, Desv.   | „ <i>Medicago sativa</i> .   |
| „ maura, Meig.   | „ <i>Crepis biennis</i> .  |
| „ pusilla, Meig.   | „ <i>Euphorbia Cyparissias</i> .   |
| Phytomyza Aquifolii, Goureau,                                    | „ <i>Ilex Aquifolium</i> .   |
| „ Lonicerae, Desv.   | „ <i>Lonicera</i> .  |
| „ Primulae, Desv.  | „ <i>Primula grandiflora</i> .   |
| „ Aquilegiae, Desv.  | „ <i>Aquilegia vulgaris</i> .  |
| „ Thapsi, Desv.  | „ <i>Verbascum Thapsus</i> .   |
| „ Xylostei, Desv.  | „ <i>Lonicera Xylosteum</i> .  |
| „ Lappæ, Goureau,  | „ <i>Arctium Lappa</i> .   |
| „ Sonchi, Desv.  | „ <i>Sonchus oleraceus</i> .   |
| „ Sphondylii, Desv.  | „ <i>Heracleum Sphondylium</i> .   |
| „ Ranunculi, Desv.   | „ <i>Ranunculus acris</i> .  |
| „ Scolopendri, Desv.   | „ <i>Scolopendrium</i> .   |
| „ geniculata, Mcq.   | „ <i>Tropæolum capucinum</i> , <i>Pisum sativum</i> , <i>Crambe maritima</i> , <i>Papaver orientale</i> , <i>Matricaria officinalis</i> , <i>Cheiranthus Cheiri</i> , etc. |
| „ lateralis, Fal.  | „ <i>Sonchus oleraceus</i> and <i>Leucanthemum Chrysanthemum</i> .   |
| „ Plantaginis, Desv.   | „ <i>Plantago lanceolata</i> .   |

|                        |  |               |
|------------------------|--|---------------|
| Discal transverse vein | beyond the præbrachial transverse . . .    | 1. AGROMYZA.  |
|                        | in a line with the præbrachial transverse, |               |
|                        | or none . . . . .                          | 2. PHYTOMYZA. |

## Genus I. AGROMYZA.

AGROMYZA, Fal. Agromyz. (1823); Meig.; Mcq.; Westw.; Zett.

Corpus parvum aut minimum, convexum, breve, subsetosum. Antennæ breves; articulus tertius rotundus; arista setiformis, gracilis, nuda. Thorax subellipticus. Alæ mediocres; vena discalis transversa præbrachiali transversa disjuncta. Abdomen plerumque breve. Pedes graciles; ungues et onychia minima.

Body small or very minute, convex, short, thinly beset with bristles. Head generally narrower than the thorax. Eyes rather small, or of moderate size. Antennæ short; first and second joints very small;

third round; fourth and fifth obsolete; sixth setiform, slender, bare, seated on the third. Thorax nearly elliptical. Wings moderately long; costal vein ending near or at the tip of the wing; subcostal ending at about one-third of the length; radial ending at five-sixths of the length or beyond; cubital ending at the tip of the costal; præbrachial ending at the tip, or on the hind border near the tip; pabrachial complete; *discal transverse* straight, slightly oblique, *beyond the præbrachial transverse*. Abdomen with six distinct segments. Legs of moderate length, generally slender. Ungues and onychia very small.

a. Discal transverse vein parted by very little more than its length from the præbrachial transverse, and by nearly twice its length from the border.

b. Head wholly black. Species 1.

b b. Head ferruginous in front. Species 2.

b b b. Head yellow. Species 3.

a a. Discal transverse vein parted by a little more than its length from the præbrachial transverse, and by about four times its length from the border.

b. Legs black.

c. Scutellum yellow. Species 4.

c c. Scutellum black. Species 6.

b b. Legs yellow. Species 5.

a a a. Discal transverse vein parted by more than its length from the præbrachial transverse, and by more than twice its length from the border. Species 7.

1. **nigripes**, Meig. Zw. vi. 170. 7 (1830); Mcq.; Zett.—var. *reptans* var. *d. ambigua*, Fal.—*ambigua*, Zett. I. L. *Nigra*, oculis rufis, *alis subcinereo-hyalinis*, venis nigris, halteribus albis. Long.  $1-1\frac{1}{4}$ ; alar.  $2\frac{1}{2}-3$  lin.

Black, slightly shining. Eyes red. *Wings slightly greyish-hyaline*; veins black; costal vein ending at the tip of the wing; præbrachial ending on the hind border near the tip. Halteres white. Abdomen very little longer and narrower than the thorax. Legs rather slender.

Common. (E.)

2. **latipes**, Meig. Zw. vi. 177. 34 (1830); Zett. *Nigro-cinerea*, *capite atro-bivittato antice ferrugineo*, antennis piceis, *thorace quadri-subcarinato*, *alis albis*, tibiis tarsisque flavo-cinctis, maris tibiis posticis dilatatis. Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{2}$  lin.

*Greyish-black*. Front with two deep black stripes, ferruginous towards the face. Antennæ piceous. Thorax with four slight ridges. Wings white; veins and halteres whitish. Abdomen elliptical, a little longer than the thorax. Legs black; a yellow band on each of the anterior tibiæ; first and second joints of the tarsi yellow at the base. *Male*. Hind tibiæ dilated. *Fem*. Hind tibiæ with a yellow band.

Local, or occasionally abundant. (E.)



3. **ornata**, Meig. Zw. vi. 176. 29 (1830). Læte flava, oculis rubris, capite pedibusque pallide flavis thoracis disco atro, alis limpidis, abdomine flavescente fulvo e maculis nigris trivittato. Long.  $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$  lin.

Bright-yellow. Head pale-yellow. Eyes bright-red. Thorax above, except the scutellum, and disc of the pectus deep-black. Wings limpid; veins black; costal vein ending at the tip of the wing; præbrachial ending on the hind border at some distance from the tip. Abdomen yellowish-tawny, with three rows of black spots. Legs pale-yellow.

Not rare. The larva occurs on the leaves of different species of *Cratægus*, where it preys on *Alcyrodes Phillyrea*, Hal.

4. **flaveola**, Fal. Agromyz. 6. 11 (1823); Meig.; Zett.—*variegata*, Meig. Nigra, capite luteo-flavo postice nigro, antennis flavis, thoracis lateribus scutelloque pallide flavis, alis sublimpidis, halteribus albidis, abdomine sordide flavo, fasciis abbreviatis apiceque nigris, tibiis basi genubusque flavis. Long.  $\frac{3}{4}$ —1; alar.  $2-2\frac{1}{2}$  lin.

Black. Head luteous-yellow, black behind. Antennæ yellow. Scutellum and sides of the thorax pale-yellow. Wings hyaline, nearly limpid, very iridescent; veins black; costal vein ending at a little in front of the tip of the wing; præbrachial ending at the tip. Halteres whitish. Abdomen dingy-yellow; a stripe of short bands and tip black. Legs black, slender; knees and tibiæ at the base yellow.

Common. (E. S. I.)

5. **pusilla**, Meig. Zw. vi. 185. 68 (1830). Nigra, capite thoracisque lateribus pallide flavis, antennis luteo-flavis, scutello albido, alis limpidis, abdominis suturis ventrique flavescens, pedibus flavis, tibiis posterioribus tarsisque piceis. Long.  $\frac{1}{2}-\frac{2}{3}$ ; alar.  $1-1\frac{1}{2}$  lin.

Black. Head pale-yellow, black behind. Antennæ luteous-yellow; arista black. Sides of the thorax pale-yellow. Scutellum whitish. Wings limpid; veins black; costal vein ending at a little in front of the tip of the wing; præbrachial ending at the tip. Halteres whitish. Abdomen elongate-oval; hind borders of the segments and underside yellowish. Legs yellow; tarsi and posterior tibiæ piceous.

Common. (E. S. I.)

6. **exigua**, Meig. Zw. vi. 184. 68 (1830); Zett. Nigra, capite antico thoracisque lateribus pallide flavis, alis limpidis, halteribus albidis. Long.  $\frac{1}{2}$ ; alar. 1 lin.

Black. Head in front and sides of the thorax pale-yellow. Antennæ black. Wings limpid; veins black; costal vein ending at a little in front of the tip of the wing; præbrachial ending at the tip. Halteres whitish. Legs black.

Common. (E. S. I.)

7. **denticornis**, Pz. Fn. 104. 22; Meig. (1830); Mcq.; Zett.—

*Meigenii*, Fal. Nigra, sat longa, capite antennisque basi luteis, thoracis lateribus flavis, alis subcinerascens, halteribus pallide flavis, pedibus piceis, femoribus flavis, tibiis antice fulvis. Long.  $\frac{3}{4}$ - $1\frac{1}{4}$ ; alar.  $1\frac{1}{2}$ - $2\frac{1}{2}$  lin.

Black, shining, rather long and slender, nearly linear. Head luteous, black behind, pale-yellow beneath. Antennæ black; first and second joints luteous; third conical, terminated by a short spine. Thorax elliptical; sides yellow. Wings slightly greyish-hyaline; veins black, yellow towards the base; cubital vein ending at a little in front of the tip of the wing; præbrachial ending at very little behind the tip. Halteres pale-yellow. Abdomen fusiform. Legs piceous, rather long; femora yellow; fore tibiæ tawny.

Generally distributed. (É. S. I.) Macquart has given this species the generic name of *Odontocera*, on account of the spine on the third joint of the antennæ.

## Genus II. **PHYTOMYZA.**

PHYTOMYZA, Fal. Phytomyz. (1823); Meig.; Mcq.; Westw.; Zett.

Corpus angustum, parvum vel minimum. Caput et thorax convexa, subsetosa. Caput thoracis latitudine. Antennæ breves; articulus tertius rotundus vel oblongus; arista nuda aut pubescens. Thorax ellipticus. Alæ sat longæ; vena discalis transversa disco valde remota præbrachiali transversa conjuncta, vel nulla. Pedes graciles.

Body small or very minute, rather slender, nearly linear, with a few bristles. Head and thorax convex. Head as broad as the thorax. Antennæ short; first and second joints very minute; third round or oblong, arista slender, setiform, bare or pubescent. Thorax elliptical. Wings rather long; costal vein ending on the fore border at some distance from the tip of the wing; subcostal ending at a little beyond one-third of the length; radial ending at a little before two-thirds of the length; cubital ending at the tip of the costal; præbrachial and pabrachial straight, very slight, occasionally indistinct; præbrachial ending at the tip or at a little behind it; *præbrachial transverse in a line with the discal transverse, and parted by more than six times its length from the border, or none.* Abdomen a little narrower than the thorax, with distinct segments. Legs of moderate length. *Male.* Abdomen linear, as long as the thorax. *Fem.* Abdomen fusiform, or attenuated towards the tip, a little longer than the thorax.

*a.* Præbrachial transverse vein in a line with the discal transverse. Species 1.

*a a.* No præbrachial transverse vein.

*b.* Body black, or greyish-black.

- c. Front black.
- d. Wings greyish.
- e. Body black. Species 2.
- e e. Body greyish-black. Species 3, 4.
- d d. Wings white. Species 5.
- c c. Front pale. Species 6.
- d. Legs black; femora yellowish. Species 7.
- d d. Legs yellow. Species 8.
- b b. Body pale.
- c. Thorax with three grey stripes. Species 9.
- c c. Thorax without stripes. Species 10.
- c c c. Thorax with three luteous stripes. Species 11.

1. **lateralis**, Fal. Phytomyz. 3. 2 (1820); Meig.; Mcq.; Zett.—*Sonchi*, Desv. Nigro-cinerea, capite, thoracis vittis lateralibus, halteribus, abdominis suturis, genubusque flavis, vertice nigro, alis sublimpidis. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

Greyish-black. Head yellow in front, pale-yellow beneath, and with two pale-yellow stripes on the vertex; triangle of the ocelli black. Antennæ deep-black. Thorax and abdomen with a slender yellow stripe on each side. Wings nearly limpid; veins black, yellow towards the base; præbrachial vein ending at very little behind the tip of the wing. Halteres pale-yellow. Hind borders of the abdominal segments yellow, especially towards the tip. Legs black; knees yellow. *Fem.* Abdomen subfusiform.

Common. (E. S. I.)

2. **Aquifolii**, Goureau, MSS.; Desv. Rev. et Mag. Zool. 1851 (1851). Nigra, setosa, alis cinereis, halteribus flavis, genubus albidis. Long. 1; alar.  $2\frac{1}{2}$  lin.

Black, bristly. Wings grey; veins black, yellow at the base; cubital vein ending much nearer to the tip of the wing than to the tip of the radial; præbrachial vein ending at a little behind the tip. Halteres pale-yellow. Abdomen rather hairy. Legs black; knees dingy-white.

Common; appears in May. The larva undermines and feeds on holly leaves. (E. S. I.)

3. **obscura**, Fal. Phytomyz. 4. 8 (1820); Meig.; Mcq.; Zett. Nigro-cinerea, *gracilis*, alis subcinereis, halteribus albo-flavescentibus; *Fem. abdomine subfusiformi*. Long.  $\frac{3}{4}$ –1; alar.  $2$ – $2\frac{1}{2}$  lin.

Greyish-black, slightly bristly. Antennæ black; third joint round. Wings greyish; veins black; *cubital vein ending as near to the radial as to the tip of the wing*; præbrachial ending on the hind border very near the tip. Halteres yellowish-white. Legs black. *Fem. Abdomen subfusiform.*

Abundant in the spring. (E. S. I.)

4. **nigra**? Meig. Zw. vi. 191. 7 (1830). Nigro-cinerea, *vir gra-*

*cilis*, alis subcinereis, halteribus albo-flavescentibus; *Fcem. abdomine ovato*. Long.  $\frac{3}{4}$ -1; alar.  $2-2\frac{1}{2}$  lin.

Greyish-black, *shorter and broader than P. obscurella*, slightly bristly. Antennæ black; third joint round. *Wings greyish*; veins black; *cubital vein ending nearer to the radial than to the tip of the wing*; præbrachial ending on the hind border very near the tip. Halteres yellowish-white. Legs black; knees whitish. *Fem. Abdomen oval*.

Common. (E. S. I.)

5. **albipennis**, Fal. Phytomyz. 4. 9 (1820); Meig.; Mcq.; Zett. Nigro-cinerea, alis halteribusque albis. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

Greyish-black. Antennæ black; third joint round. Eyes red. Wings white; fore veins black, yellow towards the base; præbrachial and pobrachial white, very indistinct. Halteres white. Legs black. *Fem. Abdomen elongate-obconical*.

Not common. (E.)

6. **affinis**, Fal. Phytomyz. 3. 3 (1820); Zett. Nigro-cinerea, capite fulvo, alis sublimpidis, halteribus albidis, abdominis suturis ventreeque flavescentibus, genibus flavis. Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{2}$  lin.

Greyish-black. Head tawny. Antennæ black. Eyes red. Wings nearly limpid; veins blackish, yellow towards the base; cubital vein ending at an equal distance between the radial and the tip of the wing; præbrachial ending at hardly behind the tip. Halteres whitish. Abdomen yellowish on the underside and along the hind borders of the segments. Legs black; knees yellow.

Common. (E. S. I.)

7. **notata**, Meig. Zw. vi. 193. 16 (1830); Mcq. Cinerea, capite, antennis basi, thoracis lateribus, scutello, abdominis lateribus suturisque flavis, alis limpidis, femoribus flavescentibus. Long.  $1-1\frac{1}{4}$ ; alar.  $2\frac{1}{2}-3$  lin.

Grey. Head, sides of the thorax, and scutellum pale-yellow. Triangle of the ocelli and hind part of the head black. Antennæ black, yellow at the base. Wings limpid; veins blackish, yellow towards the base; cubital vein ending nearer to the radial than to the tip of the wing; præbrachial ending very little behind the tip. Halteres whitish. Abdomen yellow along each side and on the hind borders of the segments. Legs black; femora and knees yellowish.

Common. (E. S. I.)

8. **rufipes**, Meig. Zw. vi. 192. 13 (1830). Nigro-cinerea, capite antennisque luteis, thoracis lateribus flavo-vittatis, alis limpidis, halteribus albidis, abdominis marginibus posticis pedibusque flavis. Long.  $1\frac{1}{4}$ ; alar. 3 lin.

Greyish-black. Head luteous; triangle of the ocelli and hind part black. Antennæ luteous. Thorax with a pale yellow stripe on each side. Wings limpid; veins blackish, yellow towards the base; cubital vein ending at an equal distance between the radial and the tip of the

wing; præbrachial ending at a little behind the tip. Halteres whitish. Hind borders of the abdominal segments yellow. Legs yellow; tips of the tarsi brown. *Fem.* Abdomen elongate-obconical; tip yellow.

Not common. (E.)

9. **terminalis**, Meig. Zw. vi. 195. 24 (1830); Mcq. Flava, antennis nigris basi flavis, thorace cinereo-trivittato, alis limpidis, halteribus albidis, metathorace abdominisque apice nigris. Long.  $1-1\frac{1}{2}$ ; alar.  $2-2\frac{3}{4}$  lin.

Yellow. Triangle of the ocelli and hind part of the head black. Antennæ black, yellow at the base. Thorax with three broad grey stripes. Metathorax black. Wings limpid; veins yellow; cubital vein ending much nearer to the radial than to the tip of the wing; præbrachial ending at very little behind the tip. Halteres whitish. Tarsi brown. *Fem.* Abdomen elongate-obconical; tip black.

Common. (E. S. I.)

10. **flava**, Fal. Phytomyz. 3. 5 (1820); Meig.; Mcq.; Zett. Luteo-flava, antennis nigris basi flavis, metathorace fulvo, alis limpidis halteribus albidis, abdomine nonnunquam fasciis fusciscentibus. Long.  $1\frac{1}{4}-1\frac{1}{2}$ ; alar.  $2\frac{1}{4}-2\frac{3}{4}$  lin.

Luteous-yellow. Triangle of the ocelli and hind part of the head blackish. Eyes red. Antennæ black, yellow at the base. Scutellum pale-yellow. Metathorax tawny. Wings limpid; veins yellow; cubital vein ending much nearer to the radial than to the tip of the wing; præbrachial ending at hardly behind the tip. Halteres whitish. Abdomen occasionally with brownish bands. Legs yellow. *Fem.* Abdomen elongate-obconical.

Common. (E. S. I.)

11. **populicola**, Hal. MSS. Flava, thorace luteo-trivittato, metathorace nigro, alis limpidis, halteribus albidis; *Fem.* abdominis apice nigro. Long.  $\frac{3}{4}-1$ ; alar.  $2-2\frac{1}{2}$  lin.

Pale-yellow. Triangle of the ocelli and hind part of the head deep-black. Eyes black. Thorax with three very broad almost united pale luteous stripes, which occupy nearly the whole of the disc. Metathorax black. Wings limpid; veins yellow; cubital vein ending nearer to the radial than to the tip of the wing; præbrachial ending at hardly behind the tip of the wing. Halteres whitish. Legs yellow. *Fem.* Abdomen subfusiform; tip black.

Rare. (I.)

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#### SUBFAMILY 10. HYDROMYZIDES.

HYDROMYZIDES, Hal.; Westw. Class. (1840). *Hydromyzidæ*, Fal.; Zett.

*Facies convexa, absque foveolis membranaceis.* Peristoma rotundatum.

*Mentum breve incrassatum.* Antennæ breves, articulo primo incon-

spicuo. Arista quasi exarticulata, non nisi dorso pectinata. Alulæ auricula interiore quasi nulla\*. *Vena mediantina cum subcostali con-nata*, alæ trientem longitudinem vix pertingens. *Areolæ pobrachialis et analis perparvæ, modo non semper incompletæ*†. Oviductus fœminæ plane reconditus‡. Tibiæ anticæ et posticæ setis lateralibus ex-pertes.

*Face convex, without membranaceous furrows.* Peristoma round. *Mentum short, thick.* *Antennæ short; first joint indistinct;* fourth and fifth obsolete; sixth never pectinated beneath. *Subcostal and medias-tinal veins united,* hardly extending to one-third of the length of the wing. *Pobrachial and anal areolets very minute, if not always incom-plete.* Alulæ with the lower valve obsolete. Fore and hind tibiæ without lateral bristles. *Fem.* Oviduct concealed.

"None of this, except the singularly-formed *Musca mantis* of De Geer, had been described before the appearance of Fallen's essay in the 'Stockholm Transactions' for the year 1813, in which the tribe first assumed a distinct character and definite limits. The author has here described nineteen genuine species, and characterized most of the genera ultimately admitted. The *Dolichopidæ* were included in this tribe in the first sketch of his arrange-ment of *Diptera*, published three years before. Latreille adds to the tribe the exotic genus *Ropalomera*, and excludes from it the type of Fallen's genus *Hydromyza*, *Musca livens* of Fabricius, re-ferred to the *Cordyluræ* in accordance with Meigen's arrangement. R. Desvoidy has also placed with his *Hydrellidæ* a group of *Cordyluræ* less aberrant (than *C. livens*) from the ordinary char-acter; the type of his genus *Nupharia* being the *C. fraterna* of Meigen. Macquart, remanding *Hydromyza* and *Nupharia* to their proper place among the *Cordyluræ*, has further limited the *Hydro-myzidæ*, by rejecting all the species which have not the arista pectinate. These he has placed in his family *Piophilidæ*, in con-junction with many genera of diversified character and remote affinity.

"The tribe, as described by Fallen in his 'Diptera Sueciæ,' where he removes *Hydromyza* to the *Scatomyzidæ*, and rejects the addition of *Ropalomera*, is one of the most remote from the Ca-lyptrate section, and can scarcely be confounded with any other

\* A little more apparent in *Ochthera*.

† For an exception see *Ephydra nasica*. The imperfection of the same areolets is a character of the *Oscinidæ* also; but in that tribe they become incomplete after attaining their full development in the *Loxoceridæ*. This appears as well from the indication of their limit in the thickening of the veins and the corresponding divari-cation of the radial and cubital veins, as from the analogy of the last-named tribe.

‡ There is a slight exception in the subgenera *Glenanthe* and *Teichomyza*.

group, unless it be with certain species of the *Geomyzidæ*, which appear to offer the nearest affinity. Nevertheless from these the *Hydromyzidæ* may be distinguished either by the form of the head and mouth, the characteristic imperfection of the areolet of the wing, or the total concealment of the ovipositor. The greater number frequent the neighbourhood of waters, a destination indicated by the satiny lustre of the minute scales which clothe the face and sides. *Ephydra riparia*, the feet of which are formed peculiarly for resting on the surface of pools, is here regarded as the type of the group. The larvæ of most *Ephydræ* live among the semi-fluid green matter which mantles on the surface of stagnant waters, or in the mud at the bottom. Desvoidy assumes that the other genera of the tribe, in their larva state, are nourished by the living tissue of phanerogamous plants; but this view rests on conjecture, and a solitary fact observed regarding a species of *Notiphila*. The form and homogeneous texture of the face indicates but little sensibility to smells, from whence we may probably conclude that the larvæ are not eminently saprophagous."—*Haliday*.

## SYNOPSIS OF THE GENERA.

|             |   |                             |   |                          |   |  |               |
|-------------|---|-----------------------------|---|--------------------------|---|--|---------------|
| Fore femora | { | oval, incrassated . . . . . | { | like the posterior. Eyes | { | densely pilose . . . . .   | 1. OCHTHERA.  |
|             |   |                             |   |                          |   | bare, or with scattered hairs. Second joint of the antennæ . . . . . | 3. HYDRELLIA. |
|             |   |                             |   |                          |   | unguiculate . . . . .  | 2. NOTIPHILA. |
|             |   |                             |   |                          |   | not unguiculate . . . . .  | 4. EPHYDRA.   |

Genus I. **OCHTHERA.**

OCHTHERA, Latr. H. N. xiv. 321 (1814?); Fal.; Meig.; Mcq.; Desv.; Hal.; Zett. *Musca* p., D. G.; F. *Tephritis* p., F.

Corpus vix nisi nudum. Caput subtus attenuatum, subtrigonum. Vertex impressus. Clypeus exsertus, suborbiculatus. Oculi magni, protuberantes. Palpi exserti, dilatati. Arista dorso ciliis perpaucis pectinata. Vena discali-recurrens obliquata. Areola prima exterior apice attenuata. Abdomen deplanatum. *Pedes antichi femoribus crassis ovatis, tibiis arcuatis acutis. Metatarsus posticus incrassatus.*

Body almost bare. Head nearly triangular, attenuated beneath. Vertex impressed. Clypeus projecting, suborbiculate. Eyes large, prominent. Palpi exserted, dilated. Arista with very few bristles above. Discal-recurrent vein oblique. First exterior areolet attenuated

at the tip. Abdomen flat. *Fore legs with thick oval femora and with curved acute tibiæ. Hind metatarsus incrassated.*

1. **mantis**, D. G. ! I. vi. 143. pl. 8. f. 15, 16 (1752); Latr.; Meig.; Mcq.; Hal.—*manicata*, F.; Coq.; Fal.; Desv. Nigra, submetallica, abdominis margine albo-punctato. Long. 2; alar. 4 lin.

Black. Body slightly metallic. Wings hyaline. Abdomen with white dots on the borders.

Generally distributed. (E. S. I.)

## Genus II. **NOTIPHILA.**

NOTIPHILA, Fal. Act. Holm. (1813); Meig.; Mcq.; Hal.; Stenh.; Zett.

Caput oblatum. Mentum parum incrassatum. Oculi subglabri. Antennæ articulo secundo incrassato unguiculato. Arista dorso pectinata. *Alæ plerumque unguiculatæ.*

Head oblate. Mentum slightly incrassated. Eyes almost bare. Antennæ with the second joint incrassated, unguiculated. Arista pectinated above. *Wings generally unguiculated.*

### SYNOPSIS OF THE SUBGENERA.

|   |   |   |                          |                 |
|---|---|---|--------------------------|-----------------|
| Costal vein embracing the tip of the wing.          | level. Proboscis unigeniculate. Abdomen | with five segments. Antennæ with second joint | oblong . . .             | 5. HYGRELLA.    |
|   |   |   | suborbiculate            | 6. DISCOCERINA. |
|   |   | apparently with four segments . . .           |                          | 4. TRIMERINA.   |
|   | bigeniculate . . . . .                  |   |                          | 7. HECAMEDE.    |
|   | deflexed behind . . . . .               |   |                          | 3. DISCOMYZA.   |
| ceasing at the tip of the wing. Abdomen of the male |   |   | spinose at the tip . . . | 2. DICHÆTA.     |
|   |   |   | unarmed . . . . .        | 1. NOTIPHILA.   |

### Subgenus 1. **NOTIPHILA.**

NOTIPHILA, Hal. *Keratocera*, Desv.

*Facies perpendicularis, lateribus ciliata. Palpi dilatati. Vena costalis in alæ apice evanescens. Abdomen depressum, inerme. Tibiæ intermediæ extrorsum spinosæ.*

*Face perpendicular, ciliated on each side. Palpi dilated. Costal vein vanishing at the tip of the wing. Abdomen depressed, unarmed. Intermediate tibiæ spinose on the outer side.*



1. **cinerea**, Fal. Act. Holm. 250. Hydr. 8. 2 (1813); Meig.; Mcq.! pl. 21. f. 9; Hal.; Zett.—*palustris*, Desv.—*Trapæ*, Desv.—*fulvicornis*, Desv. *Facie fulvescente, palpis tibiis tarsisque ferrugineis*, thorace ferruginoso, abdomine cinereo nigro-maculato. Long. 2; alar. 4 lin.

*Face tawny-yellow. Palpi, tibiæ, and tarsi ferruginous.* Thorax rust-brown. Abdomen cinereous, with black spots.

Everywhere abundant in marshes. Desvoidy has observed that it deposits its eggs in the flowers of *Potamogeton*. (E. S. I.)

2. **riparia**, Meig. Zw. vi. 65. 2 (1830); Mcq.; Hal.; Zett. *Facie cinerea, palpi tibiis tarsisque ferrugineis, thorace ferruginoso, abdomine cinereo nigro-maculato, tibiis annulo nigro.* Long. 2; alar. 4 lin.

*Face cinereous. Palpi, tibiæ, and tarsi ferruginous.* Thorax rust-brown. Abdomen cinereous, with black spots. *Tibiæ with a black ring.*

Not rare. (E. I.)

3. **uliginosa**, Hal. A. N. H. iii. 922. 3 (1839). *Facie fulvescente, palpis pedibusque nigris, thorace ferruginoso, abdomine cinereo nigro-maculato, tarsis ferrugineis.* Long. 2; alar. 4 lin.

*Face tawny-yellow.* Frontalia deep-black. Vertex, orbits, and thorax rusty-brown. Antennæ and *palpi black.* Wings obscurely hyaline. Halteres yellowish. Abdomen cinereous, with a blackish spot at the sides of each segment. Legs black; the tarsi (at least the two hinder pairs) ferruginous.

Found in a marsh between Glengariff and Adrighoule; on the banks of the Shannon at Tarbert; on the shores of Belfast Lough. (I.)

#### Subgenus 2. DICHÆTA.

DICHÆTA, Fal. Act. Holm. 1813. Hydr. 8. 247 (1813); Meig.; Mcq.; Hal.

*Abdomen maris convexum, apice bispinosum, segmento penultimo margine pectinato.* Characteres reliqui fere quales *Notiphilæ*.

Like *Notiphila*. *Male. Abdomen convex, with two spines at the tip; penultimate segment with a pectinated border.*

4. **caudata**, Fal. Act. Holm. 1813. Hydr. 8. 249 (1813); Meig.! Zw. pl. 58. f. 1-6; Mcq.; Hal. *Nigra, obscura, facie fulvescente, tarsis ferrugineis.* Long. 2; alar. 4 lin.

Black, dull. *Face tawny-yellow. Tarsi ferruginous.*

Rare. (E.)

#### Subgenus 3. DISCOMYZA.

DISCOMYZA, Meig. Zw. vi. 76 (1830); Mcq.; Hal.; Stenh. *Psilopa* p., Fal.; Zett.

*Corpus depressum. Facies latissima, rugosa. Alæ abdomen superantes, postice decurvæ. Abdomen 4-annulatum, orbiculatum, planum, subdeflexum. Tibiæ intermediæ nisi apice nudæ.*

*Body depressed. Face rugose, very broad. Wings not extending beyond the abdomen, decurved behind. Abdomen orbiculate, flat, slightly deflexed, with four segments. Middle tibiæ bare, except at the tips.*

5. **incurva**, Fal. Act. Holm. 1813. 249. Hydr. 8. 6. 1 (1813); Meig. ! Zw. vi. pl. 58. f. 14-17; Mcq.; Hal.; Zett. Nigra, antennis tarsisque posterioribus luteis. Long.  $1\frac{1}{2}$ ; alar. 2 lin.

Black. Antennæ and posterior tarsi luteous. Wings blackish.

Found in September on the wooded cliffs about Ish-oronsay, in Skye; runs swiftly, but scarcely flies. (E. I.)

#### Subgenus 4. TRIMERINA.

TRIMERINA, Mcq. D. ii. 529 (1835); Hal. *Psilopa* p., Fal. Act. Holm.; Meig.; Zett. *Psilopa*, Fal. Hydr.

*Facies perpendicularis. Antennæ articulo tertio oblongo. Alæ planæ, abdomen non superantes. Abdomen marginatum, quasi 3-annulatum, i. e. segmentis primo et quinto minimis, tribus intermediis magnis. Tibiæ intermediæ nisi apice inermes.*

*Face vertical. Antennæ with the third joint oblong. Wings flat, not extending beyond the abdomen. Abdomen with a margin apparently with three segments, that is, with the first and fifth segments very small, the other three large. Middle tibiæ bare, except at the tips.*

6. **madizans**, Fal. Act. Holm. 1813. 7. 2. 252 (1813); Meig.; Mcq.; Hal. Nigricans, submetallica, antennis femoribus anticis pedibusque posterioribus rufis. Long. 1; alar.  $1\frac{1}{2}$  lin.

Blackish, slightly metallic. Antennæ, fore femora, and hinder legs luteous.

Not uncommon on grassy banks, running actively and flying little. (E. I.)

#### Subgenus 5. HYGRELLA.

HYGRELLA, Hal. A. N. H. iii. 223 (1839). *Notiphila* p., Fal.; Meig. *Psilopa* p., Fal.; Zett. *Hydrellia* p., Mcq. *Keratocera* p. ? Desv.

*Facies perpendicularis, lateribus ciliata. Antennæ articulo tertio oblongo deflexo. Alæ abdomen superantes. Abdomen immarginatum, segmentis quinque subæqualibus. Tibiæ intermediæ nisi apice nudæ.*

*Face vertical, ciliated on each side. Antennæ with the third joint oblong, deflexed. Wings extending beyond the abdomen. Abdomen without a margin, having five almost equal segments. Middle tibiæ bare, except at the tips.*

7. **nitidula**, Fal. Act. Holm. 1813. 252 (1813); Meig.; Mcq.; Hal.; Zett.—*viridescens*? Desv. Obscure ænea, antennis, *tibiis tarsisque posterioribus ferrugineis*, alis hyalinis. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Dull-æneous. Antennæ, *tibiæ*, and *hinder tarsi ferruginous*. Wings hyaline.

Not common. (E.)

8. **leucostoma**, Meig.! Zw. vi. 68. 12. pl. 58. f. 12 (1830); Mcq.; Hal.; Zett. Obscure ænea, antennis *pedibusque ferrugineis*, alis hyalinis, *vena discali transversa fusco-cincta*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Dull-æneous. Antennæ and *legs ferruginous*. Wings hyaline; *discal transverse vein bordered with brown*.

Common among aquatic plants. (E. I.)

### Subgenus 6. DISCOCERINA.

DISCOCERINA, Mcq. D. ii. (1835); Hal. *Notiphila* p., Fal.; Meig.; Zett. *Hydrellia* p., Mcq.

*Facies medio convexa, lateribus ciliata. Proboscis basi tantum geniculata. Antennæ articulo tertio suborbiculato. Alæ planæ. Tibiæ intermedie nisi apice nude.*

*Face convex in the middle, ciliated on each side. Proboscis bent only at the base. Antennæ with the third joint suborbiculate. Wings horizontal. Middle tibiæ bare, except at the tips.*

The species will form two groups:—

a. Clypeus very short, hardly exserted. Species 9–11.

a a. Clypeus exserted, inflexed, subquadrate. Species 12.

9. **nigrina**, Meig. Zw. vi. 69. 17 (1830). *Nigricans, fronte thoraceque cinerascens, facie exalbida, tarsi ferrugineis*. Var.  $\beta$ . Antennis subtus et fronte antice ferrugineis.—*obscura*? Fal. Act. Holm. 1813. 251 (1813); Meig. Zw. vi. pl. 59. f. 15; Hal.; Zett. Var.  $\gamma$ . Minor, thorace fusco, pedibus fere totis nigris. Long.  $\frac{3}{4}$ –1; alar.  $1\frac{1}{2}$ –2 lin.

*Blackish. Front and thorax greyish. Face whitish. Wings hyaline. Tarsi ferruginous*. Var.  $\beta$ . Fore part of front and antennæ beneath ferruginous. Var.  $\gamma$ . Smaller. Thorax brown. Legs almost wholly black.

Common in moist grassy places. Var.  $\beta$ . rare. (E. I.)

10. **calceata**, Meig. Zw. vi. 69. 16 (1830); Hal. *Nigra, subnitida, scutelli disco subglabro, tarsi basi flavis*. Long. 1; alar. 2 lin.

*Black, slightly shining. Disc of the scutellum almost smooth. Wings hyaline. Tarsi yellow at the base.*

Not rare about streams. (E. I.)

11. **pulicaria**, Hal. A. N. H. iii. 224 (1839). *Nigra, scutello pubescente, vena pabrachiali non abbreviata.* Long. 1; alar. 2 lin.

A minute species, with the wings scarcely exceeding the abdomen; the base of the costal vein more bristly, and the radial rather shorter than in the others; the pabrachial scarcely abbreviate. Arista with only four or five hairs. Thorax and scutellum pubescent. Wings obscure hyaline. Club of the halteres white. Extremity of the abdomen glossy.

Not common; mostly found on windows. (I.)

12. **glabra**, Meig. Zw. vi. 69 (1830); Mcq.; Hal. *Nigra, nitida, alis hyalinis, halteribus fuscis, tarsis basi flavis.* Long. 1; alar. 2 lin.

Black, shining. Wings hyaline. Halteres brown. Tarsi yellow at the base.

Not common. (E.)

### Subgenus 7. HECAMEDE.

HECAMEDE, Hal. A. N. H. iii. 224 (1839). *Notiphila* p., Meig.; Mcq.

*Facies tuberculata. Oculi a peristomate distantes. Proboscis bigeniculata. Antennæ articulo tertio orbiculato. Alæ abdomen non superantes. Abdomen planum, subdeflexum, 4-annulatum, ventre toto coriaceo haud insecto. Tibiæ nisi apice nudæ.*

Face tuberculate. Eyes remote from the peristoma. Proboscis with two joints. Antennæ with the third joint orbiculate. Wings not extending beyond the abdomen. Abdomen level above, slightly deflexed, with four segments, wholly coriaceous and without sutures beneath. Tibiæ bare, except at the tips.

13. **albicans**, Meig. Zw. vi. 65. 3 (1830); Mcq.; Hal. *Albida, facie puncto nigro, antennis tibiis tarsisque flavis.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Whitish. Face with a black dot. Antennæ, tibiæ, and tarsi yellow. Wings white.

On sandy coasts, especially on fresh marine rejectamenta; runs fast and does not fly readily. (E. I.)

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### Genus III. HYDRELLIA.

HYDRELLIA, Desv. E. M. (1830.) *Notiphila* p., Fal.; Meig.; Zett. *Discocerina* p., Mcq. *Hydrina*? Desv.

*Caput oblatum. Mentum parum incrassatum. Oculi confertissime pilosi, quasi velutini. Antennæ articulo secundo exunguiculato. Alæ exunguiculatæ.*

Head oblate. Mentum slightly thickened. Eyes very thickly pilose, as if velvety. Antennæ with the second joint exunguiculate. Wings ex-

*unguiculate*. Every facet of the eyes appears to produce a short erect hair from its centre, which gives a velvety pile to the whole, and an indefinite outline when viewed by a magnifier, unless in the direction of a row of the lenses.

## SYNOPSIS OF THE SUBGENERA.

|        |   |                                   |               |                     |               |
|--------|---|-----------------------------------|---------------|---------------------|---------------|
| Arista | { | pectinated above. Face            | {             | convex . . . . .    | 1. HYDRELLIA. |
|        |   |                                   |               | impressed . . . . . | 2. ATISSA.    |
|        |   | very minutely pubescent . . . . . | 3. GLENANTHE. |                     |               |

## Subgenus 1. HYDRELLIA.

HYDRELLIA, Desv.; Hal. A. N. H. iii. 401 (1839).

*Facies convexa, superne attenuata, squamuloso-micans, puncto lucido antennarum basin superante. Palpi subdilatati. Antennæ articulo tertio ovato aut orbiculato, compresso, deflexo; arista dorso pectinata. Alæ apice rotundatæ. Vena discali-recurrens ab alæ margine parum distans.*

*Face convex, attenuated above, shining, as if squamulose, with a lucid spot above the base of the antennæ. Palpi slightly dilated. Antennæ with the third joint oval or orbiculate, compressed, deflexed; arista pectinated above. Wings rounded at the tips. Discal-recurrent vein near the border of the wing.*

The species of this group generally occur in great profusion in their favourite localities, and are subject to some variation in the colour of the face, antennæ, and mouth. The general colour of the body is rather uniform, ranging from a dull olive or cinereous shade to a shining black. The halteres are sulphureous, with the base black in the dark-coloured species, brown or tawny in the others.

1. **Cardamines**, Hal. A. N. H. iii. 402. 1 (1839). *Nigro-ænescens, antennis subtus facie ore palpis coxis et tibiis anticis totis tibiis posterioribus apice tarsisque basi fulvis.* Var.  $\beta$ . *Facie albo-micante.* Var.  $\gamma$ . *Antennis et mento nigris.* Long.  $\frac{3}{4}$ – $1\frac{1}{4}$  lin.

*Æneous-black. Antennæ beneath, face, mouth, palpi, coxæ, fore tibiæ, hinder tibiæ at the tips, and tarsi at the base tawny.* Var.  $\beta$ . *Face with white reflections.* Var.  $\gamma$ . *Antennæ and mentum black.*

Among aquatic plants, at Hollywood, near Belfast; local, but not rare. (I.)

2. **flaviceps**, Meig. Zw. vi. 72 (1830); Mcq.; Hal.—*aurifacies*, Desv. *Obscure viridis, ore palpisque flavis, facie flava albo-micante, antennarum articulo tertio tibiis tarsisque fulvis, tibiis posticis annulo fusco.* Long. 1; alar. 2 lin.

*Dark-green. Mouth and palpi yellow. Face yellow, with white reflections. Third joint of the antennæ, tibiæ, and tarsi tawny. Hind tibiæ with a brown band.*

Rare; found in marshes about Hollywood, near Belfast. (I.)

3. **Hydrocotyles**, Hal. A. N. H. iii. 402. 3 (1839).—*communis*? Desv. *Obscure viridis, facie albissima, tibiis anterioribus et posticarum apice palpis tarsisque fulvis.* Long. 1; alar. 2 lin.

*Dark-green. Face brilliant-white. Palpi, tarsi, anterior tibiæ, and tips of hind tibiæ tawny.*

Extremely rare; found at Hollywood, near Belfast. In the collection of Mr. Haliday. (I.)

4. **porphyrops**, Hal. A. N. H. iii. 402. 4 (1839). *Nigricans, facie ore palpisque flavis, puncto frontali albo, oculis hyacinthinis, antennarum articulo tertio tibiis apice tarsisque basi fulvis.* Long.  $\frac{4}{5}$ ; alar.  $1\frac{1}{2}$  lin.

*Blackish, with a white frontal dot. Face, mouth, and palpi yellow. Third joint of the antennæ, tibiæ at the tips, and tarsi at the base tawny.*

This distinct and beautiful species has occurred but once at Hollywood, near Belfast, among *Mentha sylvatica*, in a ditch. The face is remarkably small, and the eyes are large and of an exquisite purple tint; they are dark green or brassy in most other species. In Mr. Haliday's collection. (I.)

5. **thoracica**, Hal. A. N. H. iii. 402. 5 (1839). *Facie alba, palpis nigris, thorace cinereo obsolete lineato, tarsis posterioribus ferrugineis.* Long.  $1\frac{1}{3}$ ; alar.  $2\frac{1}{2}$  lin.

*Face white. Palpi black. Thorax with indistinct grey stripes. Posterior tarsi ferruginous.*

A very distinct species, of robust form, and the only one which has any vestige of markings on the body. The discal-recurrent vein is very near the margin. The middle and hind tibiæ are evidently thicker than the fore pair. Rare; found in June on the sea-coast at Hollywood, near Belfast. In the collection of Mr. Haliday. (I.)

6. **Ranunculi**, Hal. A. N. H. iii. 402. 6 (1839). *Nigro-olivacea, facie alba, tarsis posterioribus basi palpisque ferrugineis, vena discali transversa subobliqua.* Long.  $1\frac{1}{3}$ ; alar.  $2\frac{1}{2}$  lin.

*Blackish olive-colour. Face white. Palpi ferruginous. Wings with the discal transverse vein slightly oblique. Posterior tarsi ferruginous at the base.*

Abundant in meadows and marshes. This is probably the variety of *H. griseola* of which Fallen makes mention, and erroneously considers its white face to be a sexual distinction. (E. I.)

7. **griseola**, Fal. Act. Holm. 1813. 250. 9. 5 (1813); Meig.;

Mcq.; Hal.; Zett. *Viridi-cinerea, subtus schistacea, facie flavicante, puncto frontali albissimo, tarsis posterioribus basi palpisque ferrugineis, alis hyalinis, vena transversa perpendiculari.* Long. 1; alar. 2 lin.

*Greenish-grey, slate-colour beneath. Face yellowish. Frontal dot brilliant-white. Palpi ferruginous. Wings hyaline; discal transverse vein perpendicular. Posterior tarsi ferruginous at the base.*

The most abundant species in meadows. The distinct white dot above the antennæ is rarely wanting. The palpi are usually dusky at the base. The wings and legs are particularly long. (E. I.)

8. **chrysostoma**, Meig. Zw. vi. 67. 8 (1830); Hal.; Zett.—*viridescens*, Desv. *Nigro-olivacea, facie flavicante, palpis ferrugineis, vena transversa subobliqua.* Long. 1; alar. 2 lin.

*Blackish olive-colour. Face yellowish. Palpi ferruginous. Wings with a slightly oblique transverse vein.*

Not rare in marshes. (E. I.)

9. **tarsata**, Hal. A. N. H. iii. 403. 9 (1839). *Nigro-olivacea, facie palpisque flavis, femoribus anticis validis, tarsis iisdem subtus flavotomentosis, onychiis longiusculis rufescentibus.* Long.  $1\frac{1}{4}$ ; alar. 2 lin.

*Blackish olive-colour. Face and palpi yellow. Fore femora stout. Fore tarsi clothed beneath with yellow tomentum. Onychia reddish, rather long.*

Distinguished particularly by its onychia; those of the other species being short and white in both sexes. Very rare; found but once at Hollywood, near Belfast. In Mr. Haliday's collection. (I.)

10. **albiceps**, Meig. Zw. vi. 68. 11 (1830); Mcq.; Hal.—*fuliginosa?* Desv. *Nigro-ænescens, facie alba, palpis ferrugineis, alis obscuris, halteribus basi nigris.* Var.  $\beta$ . *Labellis ferrugineis, antennarum articulo tertio subtus vel etiam toto fulvo.* Long. 1; alar. 2 lin.

*Æneous-black. Face white. Palpi ferruginous. Wings dusky. Halteres black at the base.* Var.  $\beta$ . *Labella ferruginous. Antennæ with the third joint beneath or even wholly tawny.*

Common in marshes. (E. I.)

11. **erythrostoma**, Meig. Zw. vi. 69. 14 (1830); Mcq.; Hal.—*flavicornis*, Stenh.; Zett. *Nigro-ænescens, antennarum articulo tertio facie palpisque fulvis, puncto frontali albissimo, alis obscuris, halteribus basi nigris.* Var.  $\beta$ . *Puncto frontali flavicante, antennarum articulo tertio fusco.* Long. 1; alar. 2 lin.

*Æneous-black. Frontal dot brilliant white. Face, palpi, and third joint of the antennæ tawny. Wings dusky. Halteres black at the base.* Var.  $\beta$ . *Frontal dot yellowish. Third joint of the antennæ brown.*

Common on moist grassy slopes of mountains and in marshes (E. I.)

12. **Cochleariæ**, Hal. A. N. H. iii. 403. 12 (1839). *Nigro-ænesceus*, facie flavicante, palpis nigris, alis obscuris, halteribus basi nigris. Long. 1; alar. 2 lin.

*Æneous-black. Face yellowish. Palpi black. Wings dusky. Halteres black at the base. Very like H. erythrostoma, but appears to be a distinct species.*

Rare; found in June at Hollywood, near Belfast. In the collection of Mr. Haliday. (I.)

13. **albilabris**, Meig. Zw. vi. 71. 22 (1830); Mcq.; Hal.—*argyria*, Desv.—*argyrostoma*, Stenh.; Zett. *Nigra, nitida, facie alba, antennarum articulo tertio fulvo, halteribus basi palpisque nigris.* Long.  $\frac{1}{2}$ ; alar.  $1\frac{1}{4}$  lin.

*Black, shining. Face white. Halteres at the base and palpi black. Third joint of the antennæ tawny. The third joint of the antennæ is more orbiculate than in the other species, and the wings are nearly lanceolate, with the radial vein shorter.*

Very rare. In meadows at Hollywood, near Belfast. In the collection of Mr. Haliday. (I.)

#### Subgenus 2. ATISSA.

ATISSA, Hal. A. N. H. iii. 404 (1839). *Ephydra* p., Hal. E. M. I. 174.

*Facies brevis, sub antennis utrinque impressa, margine infero prominulo.*

*Antennæ articulo tertio sphæroideo, subcompresso; arista dorso breviter pectinata. Alæ lanceolatæ. Vena discali-recurrens a margine remota.*

*Face short, impressed on each side beneath the antennæ, with the lower border rather prominent. Third joint of the antennæ spheroidal, slightly compressed; arista pectinated above with short bristles. Wings lanceolate; discal-recurrent vein remote from the border.*

14. **pygmæa**, Hal. E. M. I. 174 (1834). *Cinerea*, facie albida, antennis tarsisque ferrugineis. Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{4}$  lin.

*Cinereous. Face whitish. Antennæ and tarsi ferruginous.*

Rare; found in a salt-marsh at Hollywood, near Belfast. In the collection of Mr. Haliday. (I.)

#### Subgenus 3. GLENANTHE.

GLENANTHE, Hal. A. N. H. iii. 404 (1839).

*Facies sub antennis utrinque impressa, medio longitrorsum convexa. Oculi inferne attenuati, subangulati. Antennæ articulo tertio orbiculato, compresso; arista brevi, subtilissime pubescente. Vena discali-recurrens ab alæ margine distans. Fœm. Abdomen apice rima longitudinali tuberculum muricatum includente.*



*Face impressed on each side beneath the antennæ, convex longitudinally in the middle. Eyes attenuated below, slightly angulated. Third joint of the antennæ orbiculate, compressed; arista short, very finely pubescent. Discal-recurrent vein remote from the border of the wing. Abdomen of the female with a longitudinal furrow, which includes a muricate tubercle.*

15. **ripicola**, Hal. A. N. H. iii. 404. 15 (1839). Cinerea, fronte thoraceque ferruginosis, antennis tibiis tarsisque ferrugineis, facie albida. Long. 1; alar. 2 lin.

Cinereous. Front and thorax ferruginous. Antennæ, tibiæ, and tarsi ferruginous. Face whitish.

Found on the muddy sea-coast at Hollywood, near Belfast. In Mr. Haliday's collection. (I.)

#### Genus IV. **EPHYDRA.**

EPHYDRA, Fal. Act. Holm. 1813 (1813); Meig.; Mcq.; Hal.; Zett.

*Oculi glabri, seu vage pubescentes. Proboscis magis incrassata. Antennæ articulo secundo exungiculato. Femora subæqualia.*

*Eyes bare, or thinly pubescent. Proboscis rather thick. Third joint of the antennæ not unguiculate. Femora of almost equal size.*

#### SYNOPSIS OF THE SUBGENERA.

- a. Præbrachial and anal areolets small, complete. 11. CANACE.
- a a. Præbrachial and anal areolets incomplete.
- b. Claws almost straight, with obsolete onychia. 10. EPHYDRA.
- b b. Claws curved, with hairy onychia.
- c. Head hardly depressed.
- d. Transverse vein near the border of the wing. 4. PELINA.
- d d. Transverse vein remote from the border.
- e. Face ciliated on each side. 1. HYDRINA.
- e e. Face almost bare.
- f. Costal vein passing round the tip of the wing. 2. HYADINA.
- f f. Costal vein ceasing at the tip of the wing. 3. AXYSTA.
- c c. Head depressed.
- d. Clypeus exserted. 5. NAPÆA.
- d d. Clypeus withdrawn.
- e. Peristoma bare on the border. 6. ILYTHEA.
- e e. Peristoma hairy or pectinated.
- f. Arista pectinated above. 7. CÆNIA.
- f f. Arista pubescent. 8. SCATELLA.
- f f f. Arista bare. 9. TEICHOMYZA.

## Subgenus 1. HYDRINA.

HYDRINA, Desv. E. M. (1830). *Notiphila* p., Fal.; Zett. *Ephydra* p., Meig.

*Facies proclivis, subtriangularis, convexa, lateribus subtiliter ciliata. Palpi parum dilatati. Antennæ mediocres; articulo tertio subdeflexo, oblongo, dorso subimpresso. Arista pubescens aut dorso pectinata. Vena discali-recurrens ab alæ margine distans. Abdomen 5-annulatum, convexum, apice glabrum.*

*Face slanting, almost triangular, convex, finely ciliated on each side. Palpi hardly dilated. Antennæ of moderate size; third joint slightly deflexed, oblong, a little impressed above. Arista pubescent, or pectinated above. Discal-recurrent vein remote from the border of the wing. Abdomen with five segments, convex, smooth at the tip.*

The species may be divided into two sections:—

a. Arista with long hairs, or pectinated on the back. Species 1.

a a. Arista pubescent. Species 2-7.

1. **picta**, Fal. Act. Holm. 1813. 254. 11. 13 (1813); Meig.; Hal.; Zett. *Antennis subtilis pedibusque testaceis, thorace fusco utrinque lineâ alba, scutello aterrimo. Variat femoribus nigris, aut pedibus nigris, tarsis basi rufescentibus. Long.*  $\frac{1}{2}$ ; alar. 1 lin.

*Antennæ beneath and legs testaceous. Thorax brown, with a white stripe on each side. Scutellum deep black. Var. β. Femora black. Var. γ. Legs black; tarsi rufescent at the base.*

Common on grass in shady places. (E. I.)

2. **punctato-nervosa**, Fal. Act. Holm. 1813. 254. 12. 14 (1813); Meig.; Hal.; Zett. *Antennis pedibusque flavis, thorace cinereo, alis serialim fusco-punctatis, venis transversis fuscis. Long.*  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Antennæ and legs yellow. Thorax grey. Wings with rows of brown dots; transverse veins brown.*

In sandy places. (E. I.)

3. **flavipes**, Fal. Hydr. 12. 15 (1813); Meig.; Hal.; Zett. *Facie antennis pedibusque flavis, thorace cinereo, venis transversis fuscis. Long.*  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Face, antennæ, and legs yellow. Thorax grey. Transverse veins brown.*

Not rare in meadows. (E. I.)

4. **stictica**, Meig. Zw. vi. 121 (1830); Meq.; Hal. *Facie antennis pedibusque flavis, thorace cinereo, fusco-vittato, alarum venis transversis et puncto fuscis. Long.*  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Face, antennæ, and legs yellow. Thorax grey, with brown stripes. Wings with brown transverse veins and a brown dot.*

Common in meadows. (E. I.)

5. **interstincta**, Fal. Act. Holm. 1813. 254 (1813); Meig.; Mcq.; Hal.; Zett.—*maculipennis*, Desv. *Thorace fusco-cinereo, tibiis tarsisque ferrugineis, alarum venis transversis et punctis sex fuscis*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Thorax brownish-grey. Wings with brown transverse veins, and with six brown dots. Tibiæ and tarsi ferruginous.*

Common on grass. (E. I.)

6. **interrupta**, Hal. E. M. I. 176 (1834). *Facie antennis tarsisque flavis, thorace cinereo fusco-vittato, alis fuscis disco hyalinis venis transversis fuscis*. Long. 1; alar. 2 lin.

*Face, antennæ, and tarsi yellow. Thorax grey, with brown stripes. Wings brown; disc hyaline; transverse veins brown.*

Rare; found at Hollywood, and on the sandy shore of Killiney Bay, county Dublin. In Mr. Haliday's collection. (I.)

7. **posticata**, Meig. Zw. vi. 124. 27 (1830); Mcq.; Hal.—*nigricauda*? Stenh.; Zett. *Cinerea, abdominis apice nigro, facie antennis tarsisque flavis, alis hyalinis*. Long. 1; alar. 2 lin.

*Grey. Face, antennæ, and tarsi yellow. Wings hyaline. Abdomen black at the tip.*

Not uncommon. (I.)

## Subgenus 2. HYADINA.

HYADINA, Hal. A. N. H. iii. 406 (1839). *Notiphila* p., Fal.; Zett. *Ephydra* p.; Meig.; Mcq. *Hydrina* p., Desv.

*Facies perpendicularis, superne parum angustata, vix nisi nuda. Arista pubescens. Vena costalis alæ apicem ambiens, vena discali-recurrens ab alæ margine distans, venæ brachialis ibidem sinu approximata. Abdomen 5-annulatum, segmento quinto magno glaberrimo.*

*Face vertical, slightly straitened above, almost bare. Arista pubescent. Costal vein embracing the tip of the wing; discal-recurrent vein remote from the border of the wing; brachial veins approximate in one bend of the wing. Abdomen with five segments; fifth segment large, very smooth.*

8. **guttata**, Fal. Act. Holm. 1813. 253. 11. 12 (1813); Meig.; Hal.; Zett.—*nitida*, Mcq.—*vernalis*, Desv. *Nigra, subnitida, antennis subtus pedibusque testaceis, scutelli lateribus aterrimis, alis albo-guttatis*. Long.  $\frac{1}{2}$ ; alar. 1 lin.

*Black, slightly shining. Antennæ beneath and legs testaceous. Sides of the scutellum deep black. Wings with white dots. Var. β. Face silvery-white or straw-colour. Var. γ. Legs dusky. The clear dot above and below the transverse vein is not very evident unless when the wings overlap.*

Common in swampy spots. (E. I.)

9. **scutellata**, Hal. A. N. H. iii. 406. 9 (1839). Nigra, subnitida, antennis subtus pedibusque testaceis, scutello aterrimo, alis albo-biguttatis. Long. vix 1; alar. 2 lin.

Black, slightly shining. Antennæ beneath and legs testaceous. Scutellum deep black. Wings with two white dots.

Very rare; found at Hollywood, near Belfast. In Mr. Haliday's collection. (I.)

### Subgenus 3. AXYSTA.

AXYSTA, Hal. A. N. H. iii. 406. (1839). *Ephydra* p., Meig. *Trimerina*, Mcq. *Hydrina* p., Desv.

*Facies perpendicularis, medio subconvexa, superne parum angustata, vix nisi nuda. Arista pubescens. Abdomen quasi 3-annulatum, i. e. segmentis primo et quinto minimis, basi marginatum. Vena costalis in alæ apice evanescens. Vena discali-recurrens ab alæ margine distans. Venæ brachiales ibidem sinu approximatae.*

Face vertical, slightly convex in the middle, a little straitened above, almost bare. Arista pubescent. Costal vein vanishing at the tip of the wing; discal-recurrent vein remote from the border; brachial veins approximate in the same flexure of the wing. Abdomen with a margin at the base, apparently with only three segments, the first and the fifth being very small.

10. **viridula**? Desv. E. M. 795 (1830); Hal.—*cesta*, Hal. E. M. I. 777.—*cæruleiventris*? Mcq. Nigra, nitida, facie albida vitta nigra, abdomine punctatissimo cyanescente. Long.  $\frac{1}{2}$ ; alar. 1 lin.

Black, shining. Face whitish, with a black stripe. Abdomen bluish, very thickly punctured.

Rare; found on grass at Hollywood. In Mr. Haliday's collection. (I.)

### Subgenus 4. PELINA.

PELINA, Hal. A. N. H. iii. 407 (1839). *Notiphila* p., Fal.; Zett. *Ephydra* p., Meig.; Mcq.

*Facies latissima, perpendicularis, lateribus tenuissime ciliata. Clypeus subexsertus. Arista subtilissime pubescens. Vena discali-recurrens prope alæ marginem. Abdomen depressum.*

Face very broad, vertical, very finely ciliated on each side. Clypeus slightly projecting. Arista very minutely pubescent. Discal-recurrent vein near the border. Abdomen depressed.

11. **ænea**, Fal. Act. Holm. 1813. 253 (1813); Meig.; Hal.; Zett.—*glabricula*, Meig.; Mcq. Obscure ænea, facie albicante, alis hyalinis, tarsis flavis. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Dull-æneous. Face whitish. Wings hyaline. Tarsi yellow.  
Common among aquatic plants. (E. I.)

### Subgenus 5. NAPÆA.

NAPÆA, Desv. E. M. 800 (1830); Hal. *Ephydra* p., Fal.; Meig.; Mcq.; Zett.

*Corpus pedesque subglabra. Caput depressum. Facies proclivis, latissima, vix nisi nuda. Clypeus exsertus. Mentum valde incrassatum. Arista basi pubescens. Vena præbrachialis recurrens fere in alæ medio. Abdomen depressum, suborbiculatum.*

*Body and legs almost smooth. Head depressed. Face inclined, very broad, almost bare. Clypeus exserted. Mentum very thick. Arista pubescent at the base. Præbrachial recurrent vein almost in the middle of the wing. Abdomen depressed, nearly orbiculate.*

The species will form two groups:—

a. Recurrent vein with a branch at the tip. Species 12, 13.

a a. Recurrent vein simple. Species 14–17.

12. **coarctata**, Fal. Act. Holm. 247. 4. 4 (1813); Meig.; Hal.; Zett.—*rufitarsis*, Mcq.—*stagnicola major*, Desv. *Fusco-ænea*, *arista nisi basi nuda*, *alis fuscans*, *venis transversis obscuris*, *tarsis basi ferrugineis*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Brownish-æneous. Arista bare, except at the base. Wings brownish, with darker transverse veins. Tarsi ferruginous at the base.*

Abundant on pools. (E. I.)

13. **littoralis**, Meig. Zw. vi. 116. 6. pl. 60. f. 8 (1830); Mcq.; Hal.; Zett. *Obscure ænea*, *arista villosa*, *alis fuscans*, *venis transversis obscuris utrinque hyalino-guttatis*, *tarsis basi ferrugineis*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Dull-æneous. Arista villose. Wings brownish; transverse veins darker, with hyaline dots along each side. Tarsi ferruginous at the base.*

Less common than *E. coarctata*. (E. I.) *E. quadripunctata*, Meig., also belongs to this group.

14. **Aquila**, Fal. Act. Holm. 1813. 247. 4. 3 (1813); Meig.; Mcq.; Hal.; Zett. *Fusco-ænea*, *alis fuscans*, *venis transversis obscuris*, *tibis basi apiceque albis*, *tarsis ferrugineis*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Brownish-æneous. Wings brownish, with darker transverse veins. Tibiæ white at the base and at the tips. Tarsi ferruginous.*

Not rare. (E. I.)

15. **fossarum**, Hal. E. M. I. 175 (1834).—*stagnicola minor*? Desv. *Fusco-ænea*, *alis fuscans*, *venis transversis obscuris*, *tarsis basi ferrugineis*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Brownish-æneous. Wings brownish; transverse veins darker. Tarsi ferruginous at the base.*

Abundant on pools. (E. I.)

16. **Hecate**, Hal. E. M. I. 175 (1834).—*fuscipennis*, Mcq. *Fusco-ænea, alis fuscans, venis transversis obscuris utrinque hyalino-guttatis, tarsis basi ferrugineis.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Brownish-æneous. Wings brownish; transverse veins darker, with hyaline dots along each side. Tarsi ferruginous at the base.*

Very rare; found at Hollywood, near Belfast. In Mr. Haliday's collection. (I.)

17. **pusilla**, Meig. Zw. vi. 126. 33 (1830).—*infecta*, Hal. E. M. I. 175. *Nigro-ænea, facie albicante, alis fuscans, venis transversis obscuris, pedibus nigris.* Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{2}$  lin.

*Æneous-black. Face whitish. Wings brownish; transverse veins darker. Legs black.*

Rare; found at Hollywood, near Belfast. In Mr. Haliday's collection. (I.)

#### Subgenus 6. ILYTHEA.

ILYTHEA, Hal. A. N. H. iii. 408 (1839). *Ephydra* p., Hal.; Curt.

*Caput depressum; facie convexa, inter antennis elevata, nisi lateribus nuda; clypeo recondito. Mentum incrassatum. Labella crassa, retro-producta, obtusa. Arista dorso pectinata.*

*Head depressed. Face convex, elevated between the antennæ, bare except on the sides. Clypeus withdrawn. Mentum thickened. Labella thick, produced hindward, obtuse. Arista pectinated above.*

18. **spilota**, Hal.; Curt. Brit. Ent. 413 (1832). *Nigra, facie ferruginosa, alis nigro-punctatis, tarsis flavis.* Long. 1; alar. 2 lin.

*Black. Face ferruginous. Wings with black dots. Tarsi yellow.*

Not rare about pools and ditches. (E. I.)

#### Subgenus 7. CÆNIA.

CÆNIA, Desv. E. M. 800 (1830); Mcq. *Ephydra* p., Fal.; Meig.; Hal.; Zett.

*Caput depressum; facie protuberante et margine peristomatis villosis aut setosis; clypeo recondito. Mentum valde incrassatum. Arista dorso pectinata.*

*Head depressed. Face protuberant, hairy or bristly, as is also the border of the peristoma. Clypeus withdrawn. Mentum much thickened. Arista pectinated above.*

The species will form two groups:—

a. Third joint of the antennæ obtuse. Species 19–21.

a a. Third joint of the antennæ almost conical. Species 22.

19. **albula**, Meig. Zw. vi. 115. 4 (1830); Hal. *Facie cinerascens, thorace obscure-æneo, halteribus albidis, abdomine glauco incisuris obscuris*. Long.  $1\frac{1}{2}$ ; alar. 3 lin.

*Dull-æneous. Face greyish. Halteres whitish. Abdomen glaucous; sutures dark.*

Rare; found in August at Loch Fad, Isle of Bute. In Mr. Haliday's collection. (S.)

20. **palustris**, Fal. Hydr. 4. 2 (1813); Meig.; Mcq.; Hal.; Zett. —*caricicola*, Desv. *Nigro-ænea, capite pedibusque nigris, facie setosa, halteribus fuscis*. Long. 1; alar. 2 lin.

*Æneous-black. Head and legs black. Face bristly. Halteres brownish. Common in marshes. (E. I.)*

21. **obscura**, Meig. Zw. vi. 115. 3 (1830). *Obscure ænea, epistomate flavo setuloso, alis hyalinis, pedibus cinerascens*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Obscure æneous. Epistoma yellow, somewhat bristly. Wings limpid. Halteres white. Legs cinereous.*

Rare. (E.)

22. **defecta**, Hal. E. M. I. 174 (1834). *Nigro-ænea, antennis subtus tarsisque luteis, scutello cyanescente, alis obscuris hyalino-guttatis*. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Æneous-black. Antennæ beneath and tarsi luteous. Scutellum bluish. Wings dark, with hyaline dots.*

Common in swampy spots.

#### Subgenus 8. SCATELLA.

SCATELLA, Desv. E. M. 801 (1830); Hal. *Notiphila* p., Fal.; Zett. *Ephydra* p., Fal.; Meig.; Mcq.; Hal.; Zett.

*Caput depressum; facie buccata et margine peristomatis villosis aut setosis; clypeo recondito. Antennæ articulo tertio obtuso. Arista arcuata, pubescens. Ungues curvati, divaricati. Onychia manifesta.*

*Head depressed. Face inflated, hairy or bristly, as is also the border of the peristoma; clypeus withdrawn. Third joint of the antennæ obtuse. Arista curved, pubescent. Claws bent. Onychia conspicuous.*

23. **sibilans**, Hal. E. M. I. 175 (1834). *Ferruginosa, facie flavida setosa, alis obscuris, abdomine ænescente*. Long.  $\frac{1}{2}$ ; alar. 1 lin.

*Ferruginous. Face yellowish, bristly. Wings dark. Abdomen somewhat æneous.*

Very common on the sea-coast at Hollywood, near Belfast. (E. I.)

24. **leucostoma**, Meig. Zw. vi. 121. 20 (1830); Hal. *Olivacea, facie villosa albicante, alis obscuris, vena transversa a margine remota.* Long.  $\frac{2}{3}$ ; alar.  $1\frac{1}{2}$  lin.

*Olive-colour. Face whitish, hairy. Wings dark; transverse vein remote from the border.*

Not uncommon on marine rejectamenta. (E. I.)

25. **sorbillans**, Hal. A. N. H. iii. 409. 24 (1839). *Olivacea, facie pubescente alba, alis cinerascens indistincte hyalino 5-guttatis.* Long.  $1\frac{1}{3}$ ; alar.  $2\frac{2}{3}$  lin.

*Olive-colour. Face white, pubescent. Wings greyish, with five indistinct hyaline dots.*

Not rare on the sea-coast. (I.)

26. **æstuans**, Hal. E. M. I. 176 (1834). *Cinerea, fronte thoracisque dorso ferruginosis, facie flavida, alis ferruginosis guttis quinque albis anteriore majore quadrata, tarsis ferrugineis.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Grey. Front and the back of the thorax somewhat ferruginous. Face yellowish. Wings rather ferruginous, with five white dots, of which the fore one is the largest and quadrate.*

Common on fuci. (E. I.)

27. **buccata**, Desv. E. M. 801 (1830); Hal.—*stagnalis*? Fal.; Meig.; Mcq.; Zett. *Nigra, fronte thoraceque fuscis, facie flavicante, alis fuliginosis hyalino-5-guttatis.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Black. Front and thorax brown. Face yellowish. Wings dusky, with five hyaline dots.*

The most abundant species. Fallen has probably confounded with his *E. stagnalis* all the species with hyaline dots on the dark ground of the wings. (E. S. I.)

28. **lutosa**, Hal. E. M. I. 176 (1834). *Fusco-cinerea, fronte thoraceque ferruginosis, facie flavicante, alis infumatis hyalino-5-guttatis, tarsis ferrugineis.* Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

*Brownish-grey. Front and thorax somewhat ferruginous. Face yellowish. Wings smoky, with five hyaline dots. Tarsi ferruginous.*

Found with *E. buccata*, and almost equally abundant. (E. I.)

29. **despecta**, Hal. A. N. H. iii. 409. 28 (1839). *Cinerea, facie albida, thorace fusco lineolis albidis, alis cinerascens obsolete hyalino-guttatis; Mas, femoribus mediis subtus basi pectinatis.* Long. 1; alar. 2 lin.

*Grey. Face whitish. Thorax brown, with whitish stripes. Wings greyish, with almost obsolete hyaline dots. Male. Intermediate femora pectinated beneath at the base.*

On the sea-coast and in sandy places. Not common. (I.)

30. **noctula**, Meig. Zw. vi. 119. 14 (1830); Mcq.; Hal.; Zett.



*Nigricans*, facie flavicante, thorace fusco lineolis albidis, alis fuscis hyalino-guttatis, tarsis ferrugineis. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Blackish. Face yellowish, Thorax brown, with whitish stripes. Wings brownish, with hyaline dots. Tarsi brown.

Common in moist places. (E. I.)

31. **comta**, Hal. E. M. I. 176 (1834).—*cinerea*? Desv. *Nigra*, facie albida, thorace fusco, alis fuscis hyalino-guttatis. Long.  $\frac{1}{2}$ ; alar. 1 lin.

Black. Face whitish. Thorax brown. Wings brownish, with hyaline dots.

Generally one-half less than *E. noctula*, of which it may be a variety. (E. I.)

32. **quadrata**, Fal. Act. Holm. 1813. 255. 5. 6 (1813); Meig.; Mcq.; Hal. A. N. H. iii. 410. 31; Zett.—*graminum*, Hal. E. M. I. 176. *Nigricans*, thorace fusco lineolis albidis, alis fusco-nubeculosis margine antico nigro-tessellato, tarsis ferrugineis. Long.  $\frac{3}{4}$ ; alar.  $1\frac{1}{2}$  lin.

Blackish. Thorax brown, with whitish stripes. Wings clouded with brown, tessellated with black along the fore border. Tarsi ferruginous. Var.  $\beta$ . Face whitish. Var.  $\gamma$ . Face yellowish.

Common. (E. I.) To the same group belong *E. paludum*, *E. lacustris*, and *E. quadriguttata*, Meig.

#### Subgenus 9. TEICHOMYZA.

TEICHOMYZA, Mcq. D. ii. 535 (1835). *Scatella* p., Desv. *Ephydra* p., Hal.

Caput depressum; facie longe porrecta fornicata setosa, sub antennis impressa; clypeo recondito. Peristomatis margo pectinatus. Antennæ arista elongata glabra tenui. Ungues validi curvati; onychiis conspicuis hirtis. Fem. Abdomen apice subcompressum, rima verticali.

Head depressed. Face porrect, arched, bristly, impressed beneath the antennæ; clypeus withdrawn. Border of the peristoma pectinated. Arista long, bare, slender. Claws stout, curved. Onychia conspicuous. Fem. Abdomen compressed at the tip, with a vertical furrow.

33. **fusca**, Mcq. D. ii. 535 (1835); Hal. Fusco-olivacea, thorace lineolis duabus anticis cinereis, alis fuliginosis; Mas, femoribus mediis subtus pectinatis, metatarso antico incrassato. Long. 2; alar. 4 lin.

Brownish olive-colour. Thorax in front with two grey stripes. Wings smoky. Male. Intermediate femora pectinated beneath. Fore metatarsus incrassated.

“On the walls of damp outhouses, in winter, where the larvæ (as observed by Macquart) feed on the decomposed mortar.” (E. I.) This fly occurs in great numbers in London and in some

towns on the Continent, and frequents sewers, where it finds a combination of salt and lime like that in its natural and original habitation, the sea-shore chalk-cliffs, a little below high-water mark.

### Subgenus 10. EPHYDRA.

EPHYDRA, Fal.; Meig.; Meq.; Bouché; Hal. A. N. H. iii. 510 (1839).

*Caput depressum; facie porrecta fornicata villosa. Peristoma margine pectinatum. Mentum canaliculatum, labella in quiete retrocuspidata expiciens. Antennæ articulo tertio conico; arista basi villosa. Ungues subrecti. Onychia obsoleta.*

*Head depressed. Face porrect, arched, hairy. Peristoma pectinated on the border. Mentum channelled, receiving the backward-pointed labella while in repose. Third joint of the antennæ conical. Arista hairy at the base. Ungues almost straight. Onychia obsolete.*

The singular larvæ of this group are figured by Bouché (*Naturgeschichte der Insekten*). The posterior spiracles are placed each at the extremity of a slender conical shaft, springing from a common stem, and with it longer than the rest of the body.

34. **riparia**, Fal. Act. Holm. 1813. 255. 3. 1 (1813); Meig.; Meq.; Hal.; Zett.—*salinarum*, Bouché, *Naturg.* i. 99. pl. 6. f. 13, 14, larva et pupa. Obscure æenea, facie alba aut flavicante, arista villosa, alis fuscis, tibiis tarsisque basi testaceis. Var.  $\beta$ . Thorax ferruginosus. Var.  $\gamma$ . Pedibus nigris. Long.  $1\frac{3}{4}$ ; alar. 4 lin.

*Dull æeneous. Face white or yellowish. Arista hairy. Wings brownish. Tibiæ and tarsi testaceous at the base. Var.  $\beta$ . Thorax rather ferruginous. Var.  $\gamma$ . Legs black.*

Common. (E. I.)

35. **micans**, Hal. E. M. I. 175 (1834). *Obscure viridis, facie alba aut flavicante, arista nonnisi basi pubescente, alis fuscis, pedibus nigris.* Long.  $1\frac{3}{4}$ ; alar. 4 lin.

*Dull green. Face white or yellowish. Arista pubescent only at the base. Wings brownish. Legs black.*

This may be a mere variety of *E. riparia*; as such Fallen has considered it. (E. I.)

### Subgenus 11. CANACE.

CANACE, Hal. A. N. H. iii. 411 (1839).

*Caput depressum. Facies transversa, perpendicularis, subimpressa, lateribus ciliata; clypeus exsertus. Peristoma magnum. Oculi elliptici, transversi. Arista pubescens. Areolæ præbrachialis et analis parvæ, completa. Abdomen conicum, 7-annulatum, segmento secundo maximo.*

*Head depressed. Face transverse, vertical, slightly impressed, ciliated on each side; clypeus projecting. Peristoma large. Eyes elliptical, transverse. Arista pubescent. Præbrachial and anal areolets small, complete. Abdomen conical, with seven segments; second segment very large.*

36. **nasica**, Hal. A. N. H. iii. 411 (1839). Cinerea, fronte thoraceque ferruginosis, facie albida, tarsi basi ferrugineis. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

Grey. Front and thorax somewhat ferruginous. Face whitish. Tarsi ferruginous at the base.

Rare. In Mr. Haliday's collection. (E.)

## FAMILY XXVIII. ÆSTRIDÆ.

ÆSTRIDÆ, Leach, Æstrid. Ins. (1817); Curt.; Steph.; Westw. *Æstracidæ*, Meig. *Astomata*, Duméril. *Æstrides*, Blanch.

*Caput sat magnum. Proboscis obsoleta. Alæ completæ. Vena cubitalis simplex. Halteres manifesti.*

*Head pretty large. Proboscis obsoleta. Wings complete; cubital vein simple. Halteres uncovered.*

The flies of this family are usually called Bots; they deposit their eggs on cattle, and their larvæ are nourished in the bodies of these animals.

|         |                      |                                  |                                      |
|---------|----------------------|----------------------------------|--------------------------------------|
| Alulæ { | very large. Præ-     | { joining the tip of the cubital | . 1. ÆSTRUS.                         |
|         | brachial vein        |                                  |                                      |
|         |                      |                                  | { joining the cubital before its tip |
|         | very small . . . . . |                                  | 3. GASTEROPHILUS.                    |

## Genus I. ÆSTRUS.

ÆSTRUS p., L.; F.; Schr.; Gmel.; Latr.; Lea.; Clark, L. T.; Fal.; Meig.; Mcq. *Hypoderma*, Clark, Æstr.; Mcq.; Guér. *Edemagena*, Clark, Æstr.; Mcq.; Guér.; Blanch. *Cephonemyia*, Mcq.

Corpus sublineare, pilosum. Caput thorace paullo angustius. Frons magna, antice latior. Facies brevis, lata, concava, carinata. Antennæ brevissimæ. Alæ mediocres; vena costalis alâ multo brevior; præbrachialis cubitali ad apicem juncta; discalis transversa undulata. Alulæ maximæ. Abdomen ovatum, thorace æquale, subtus concavum et retractum. Pedes sat longi et validi; ungues et onychia subelongata.

Body subfusiform, pilose. Head a little narrower than the thorax. Vertex moderately broad. Front large, widening towards the face. Face short, broad, concave, with a middle ridge. Eyes of moderate size, nearly elliptical, rather prominent. Antennæ extremely short, partly concealed by scale-like processes above them; first and second joints very minute; third round; fourth and fifth obsolete; sixth stout, bare. Thorax much longer than broad, with a very slight transverse furrow; scutellum very short. *Wings* rugulose, of moderate length; costal vein ending at a very short distance in front of the tip of the wing; subcostal ending at a little beyond half the length; mediastinal ending at before two-thirds of the length; radial ending at about five-sixths of the length; cubital ending at the tip of the costal; *præbrachial* forming a very obtuse angle at its junction with the discal transverse, very slightly curved inward from thence to its tip, *which joins the tip of the cubital*; *pobrachial* inclined towards the hind border; discal transverse undulating, parted by nearly its length from the border, and by very much more than its length from the præbrachial transverse. *Alulæ very large*. Halteres concealed by the alulæ. Abdomen oval, as broad and as long as the thorax, concave and retracted beneath. Legs hairy, rather long and stout. Ungues and onychia rather long.

1. **Bovis**, F. E. S. iv. 231. 3 (1792); Fischer; Schr.; Latr.; Lea.; Clark; Meig.; Mcq.; Guér.—*hæmorrhoidalis*, L.—Var. *Ericetorum*, Lea.; Curt. Nigro-fusca, capite flavo-albido hirtio subtus testaceo, facie antennisque nigris, thorace testaceo-hirto, alis subcinereo-hyalinis, abdomine nigro-hirto basi testaceo-hirto apice luteo-hirto, pedibus fulvis, femoribus piceis. Long. 5–6; alar. 9–11 lin.

Body blackish-brown. Head clothed with yellowish-white hairs, pale-brown above, testaceous in front and beneath. Face on each side of the middle ridge and antennæ black. Processes above the antennæ ferruginous. Thorax with four interrupted longitudinal ridges, clothed with testaceous hairs. Wings greyish-hyaline; veins and halteres brown. Alulæ white. Abdomen clothed with black hairs in the middle, towards the base with testaceous hairs, and at the tip with orange hairs. Legs tawny; coxæ black; femora mostly piceous; tibiæ with piceous stripes.

“The tip of the abdomen of the female is furnished with a tube of a corneous substance, consisting of four pieces, which are retractile within each other. The last of these terminates in five points, three of which are longer than the others, and hooked; when united together they form an instrument very much like an auger or gimlet. Lays its eggs on the hides of oxen, which, as soon as they are aware of the presence of the fly, the whole terrified herd, with their tails in the air, or turned upon their backs, or stiffly stretched out in the direction of the spine, gallop about their pastures, making the country re-echo with their lowings, and

finding no rest till they get into the water. The only communication which this grub has with the atmosphere is at its anal extremity, and therefore it has no respiratory organs at the anterior extremity. Each plate at the other end is separated by a curved line into two unequal portions, the smallest of which is contiguous to the convex belly, and the largest to the concave back of the animal. This last is distinguished by two hard brown kidney-shaped pieces, a little elevated, with the concave sides turned towards each other; in this sinus is a single small white spot, which appears to be a spiracle; in the smallest portion are eight minute circular orifices arranged in a line. Bracy Clark thinks that he has discovered spiracles in this larva in the usual situation, but Kirby believes that they are analogous to the spiraculiform tubercles of *Æ. Ovis*." Generally distributed. (E. S. I.)

## Genus II. CEPHALEMYIA.

CEPHALEMYIA, Clark, *Æstrid*. (1815); Mcq.; Westw.; Blanch. *Æstrus* p., L.; F.; Schr.; Hbst.; Gmel.; Don.; Clark, L. T.; Lea.; Latr.; Fal.; Meig.

Corpus sublineare, pubescens. Caput et thorax tuberculata. Caput magnum, subtus tumidum, thorace vix angustius. Frons magna, antice latior. Facies parva, concava, antice angustior. Antennæ brevissimæ. *Alæ* sat breves; vena costalis alâ multo brevior; *præbrachialis cubitali ante ejus apicem juncta*; discalis transversa obliqua, undulata. *Alulæ maximæ*. Abdomen subovatum, thorace paullo angustius, non longius. Pedes brevès, tenues; ungues et onychia minuta.

Body nearly linear, pubescent. Head and thorax tuberculate. Head large, tumid beneath, nearly as broad as the thorax. Vertex broad. Front large, widening towards the face. Face small, concave, narrow in front, with a row of short transverse furrows. Genæ broad. Eyes of moderate size, nearly elliptical. Antennæ extremely short, seated in the cavity of the face; first and second joints very minute; third round; fourth and fifth obsolete; sixth setiform, stout, bare, thickened towards the base. Thorax much longer than broad, with a slight transverse furrow; scutellum semicircular. *Wings* rather short; costal vein ending at some distance in front of the tip of the wing; subcostal ending at beyond half the length; mediastinal ending at a little before two-thirds of the length; radial ending at beyond five-sixths of the length; cubital ending at the tip of the costal; *præbrachial* undulating and inclined upward shortly after its junction with the discal transverse, and united to the cubital at a short distance from the tip of the latter; pobra-chial curved towards the hind border; discal transverse undulating,

oblique, parted by a little less than its length from the border, and by a little more than its length from the præbrachial transverse. *Alulæ* very large. Halteres concealed by the *alulæ*. Abdomen nearly oval, a little narrower but not longer than the thorax; dorsal segments extending beneath, where they are slightly retracted towards the base; ventral segments very small. Legs rather short and slender; unguis and onychia small.

1. **Ovis**, L. Fn. 1734 (1761); F.; Schr.; Gmel.; Lea.; Latr.; Clark; Fal.; Meig.; Mcq.; Zett. *Fusca, nigro-tuberculata*, capite subtus antennisque testaceis, harum articulo tertio pectoreque nigris, halteribus albidis, abdomine nigro argenteo-tessellato, pedibus fulvis. Long. 5; alar. 10 lin.

*Head and thorax pale brown above, with numerous minute black tubercles.* Head testaceous in front and beneath. Antennæ testaceous; third joint black above. Pectus black, clothed with pale hairs. Wings quite limpid, rugulose; veins testaceous. Halteres whitish. Abdomen black or dark brown, tessellated with silvery-white tomentum. Legs pale tawny.

"Infests sheep, and lays its eggs on the inner margin of the nostrils, from whence the maggots make their way into the head, feeding in the maxillary and frontal sinuses on the mucilage there produced. When full grown, they fall through the nostrils to the ground, and become pupæ. Sometimes the maggots make their way even into the brain, and occasion the death of the animal. In order to prevent the gad-fly from getting at their nostrils, the sheep shake their heads and strike the ground violently with their fore feet; or run away, and, getting into ruts, dry dusty spots, or gravel-pits, crowd together and hold their noses close to the ground. The anal plates are surmounted by a central boss, which is a valve that closes the respiratory orifices." Generally distributed. (E. S. I.)

2. **picta**, Meg.; Meig. Zw. iv. 172. 8 (1824); Curt. ! B. E. iii. 106. *Argenteo-cinerea, nigro-hirta*, capite tessellato, fronte scutelloque castaneis, facie antennisque ferrugineis, thorace abdomineque nigro-variis, alis limpidis basi flavescens, pedibus ferrugineis, femoribus nigro-variis. Long. 5; alar. 10 lin.

*Body grey, silvery, clothed with black hairs.* Region of the ocelli and hind part of the head tessellated with grey. Front castaneous, with grey glance. Face pale ferruginous, with a hoary tinge. Eyes ferruginous. Antennæ pale ferruginous, with a hoary tinge. Thorax adorned with black spots and stripes. Scutellum castaneous. Wings colourless, yellowish towards the base; veins brown. *Alulæ* brown. Abdomen silvery, variegated with black. Legs ferruginous; thighs partly black and grey beneath.

"This is supposed to be one of the two species of gad-fly which infest fallow-deer. One of these deposits its eggs in an orifice it makes in the skin of the animal, and so produces tumours; the other lays its eggs in such a manner that its larvæ, when hatched, can make their way into the head, where they take their station in a cavity near the pharynx. There are two fleshy bags as big as a hen's egg, and of a similar shape, near the root of the tongue of the deer; these are inhabited by the larvæ in considerable numbers, and between sixty and seventy bots have been taken from one of them. The larvæ have been found in England in deer that had been killed for venison; they were stationed in the throat, just at the commencement of the œsophagus. They much resemble the larvæ of *Æstrus Ovis*, but are proportionately longer and less angular." Very rare. (E.)

### Genus III. **GASTEROPHILUS.**

GASTEROPHILUS, Lea. *Æstrid.* Ins. (1817); Zett. *Æstrus* p., L.; D. G.; F.; Hbst.; Schr.; Gmel.; Clark; Fal.; Latr.; Mcq.; Guér.; Westw. *Gastrus*, Meig.

Corpus sublineare, hirtum. Caput breve, thorace angustius. Frons magna, antice latior. Facies parva, concava. Antennæ brevissimæ. *Alæ* mediocres; vena costalis alâ multo brevior; *præbrachialis ad marginem posticum terminata*; discalis transversa fere recta, subobliqua. *Alulæ minimæ*. Abdomen subtus recurvum, thorace longius. Pedes mediocres; ungues et onychia sat longa.

Body nearly linear, hairy. Head short, narrower than the thorax. Interfrontalia large, triangular. Front broad, widening towards the fore border, which is concave. Face small, concave. Genæ large. Eyes of moderate size, rather narrow, nearly elliptical. Antennæ very short, seated in the cavity of the face; first and second joints very minute; third round; fourth and fifth obsolete; sixth setiform, slender, bare. Thorax not longer than broad, with a slight transverse furrow; scutellum small, nearly semicircular. *Wings* moderately long, slightly rugulose; costal vein ending at some distance in front of the tip of the wing; subcostal ending at much before half the length; mediastinal ending at before two-thirds of the length; radial ending at about five-sixths of the length; cubital ending at the tip of the costal; *præbrachial nearly straight, slightly inclined hindward, and ending on the hind border at some distance from the tip*; pabrachial and anal curved towards the hind border; discal transverse nearly straight, slightly oblique, parted by nearly four times its length from the border. *Alulæ very small*. Halteres uncovered. Abdomen as broad as the thorax,

and more or less longer, recurved beneath; ventral segments nearly as broad as the dorsal. Legs of moderate length and thickness; femora hairy; tibiæ and tarsi pubescent; ungues and onychia rather long.

*Male*. Discal transverse vein in a line with the præbrachial transverse.

*Fem*. Discal transverse vein parted by less than half its length from the præbrachial transverse. Tip of the abdomen attenuated, recurved, and applied to the underside when at rest.

1. **Equi**, F. S. A. 228. 4 (1792); Fischer; Lea.; Latr.; Clark; Fal.; Meig.; Mcq.; Zett.; Guér.—*Bovis*, L.; F. Sp. I.; Hbst.; Schr.—*intestinalis*, D. G.—*vituli*, F. E. S.—*hæmorrhoidalis*, Gmel. Piceo-fulvus vel piceus, testaceo vel fuscescens hirtus, antennis piceis, *alis albidis cinereo-bifasciatis*, halteribus pedibusque testaceis, tibiis apice tarsisque nonnunquam piceis. Long. 5–8; alar. 11–12 lin.

Body tawny, clothed with testaceous hairs. Head testaceous beneath. Antennæ piceous. Disc of the thorax piceous. *Wings dingy whitish; a transverse band beyond the middle and tips grey*; veins and halteres testaceous. Legs testaceous. *Male*. Discal transverse vein in a line with the præbrachial transverse. *Fem*. Discal transverse vein parted by less than half its length from the præbrachial transverse. Abdomen black towards the tip. Var.  $\beta$ . Abdomen ferruginous; sides partly piceous. Var.  $\gamma$ . Body piceous, clothed with brownish hairs. Tarsi and tips of the tibiæ piceous.

“Deposits its eggs on the hairs of such parts of the body as the horse can reach with its tongue, and the eggs are thus conveyed into the stomach. The larva has no communication at all with the external air, breathing that which is received into the stomach, and has respiratory plates at both ends of the body. It has eight longitudinal tracheæ, six arranged in a circle and two minute ones, which appear to terminate in a pair of external spiracles in the neck. The other *Estridæ* have only a pair of tracheæ.” Generally distributed. (E. S. I.)

2. **hæmorrhoidalis**, L. Fn. 1733 (1761); F. S. A.; Fal.; Clark; Meig.; Mcq.; Zett.—*Bovis*, Gmel.—*Equi* var., F. E. S. Nigro-piceus, *testaceo-hirtus*, capite fulvo, antennis piceo-ferrugineis, *alis sordide hyalinis*, venis halteribusque testaceis, *abdomine medio nigro-hirto apice luteo-hirto*, pedibus testaceis, femoribus piceo-vittatis. Long.  $4\frac{1}{2}$ –5; alar. 9–10 lin.

Body rather slender, piceous black, *clothed with testaceous hairs*. Head tawny; vertex piceous. Antennæ ferruginous, piceous above; arista black. Scutellum ferruginous. Wings dingy hyaline; veins and halteres testaceous; discal transverse vein parted by more than its length from the præbrachial transverse. *Abdomen clothed with testaceous hairs towards the base, with short black hairs in the middle, and with orange hairs towards the tip*. Legs testaceous; femora with piceous stripes. Var.  $\beta$ . Abdomen tawny towards the base.



Lays its eggs on the lips of horses, which, "at sight of this fly, are always much agitated, tossing their heads about in the air to drive it away; and, if this does not answer, galloping off to a distant part of the pasture, and, as their last resource, taking refuge in the water, where the gad-flies never follow them." Not common. (E.)

**3. salutaris?** Clark, *Æstr.* pl. 1. f. 35, 36 (1815); Meig.; Mcq. —*salutiferus*, Clark, *Æstr. Suppl.*; Curt.! B. E. iii. 146. Nigra, ochraceo-hirta, alis subfuscescentibus, basi et ad costam subflavescentibus, abdomine nigro-hirto basi flavo-hirto apice ochraceo-hirto, pedibus ferrugineis. Long.  $4\frac{1}{2}$ –5; alar. 9–10 lin.

Body black, very pubescent, shining, punctured, brighter and more robust in the male than in the female. Head clothed with short ochraceous hair. Eyes dull castaneous. Thorax covered with orange down, having at the base of each wing an orange spot, which is more distinct in the male than in the female. Wings slightly brown, yellowish-brown at the base and along the fore border; costal vein brown; the others paler. Alulæ opaque-white. Abdomen black in the middle, clothed with pale-yellow hairs towards the base, and with orange hairs at the tip. Legs reddish-brown, clothed with paler down.

Not common. (E.) The fly here described seems hardly distinct from the preceding species.

**4. nasalis**, L. Fn. 1732 (1761); D. G.; F. Sp. I.; Schr.; Gmel.; Pz.; Meig.; Mcq.—*Equi*, F. E. S.—*veterinus*, F. S. A.; Fal.; Clark.—*Clarkii*, Lea.; Meig. Nigro-fusca, fulvo-hirta, capite fulvo subtus testaceo, antennis pedibusque fulvis, alis sublimpidis, abdomine cano-hirto, femoribus tibiisque ad partem nigris. Long. 4; alar. 8 lin.

Body blackish-brown. Head and thorax clothed with tawny hairs. Head tawny, testaceous beneath. Antennæ tawny. Wings nearly limpid; veins tawny. Abdomen clothed with hoary hairs. Legs tawny; femora and tibiæ partly black.

Not common. (E.)

## HYPOCERA.

HYPOCERA, Latr.; Mcq. *Trineuræ*, Meig. *Trineurides*, Zett. *Phorites*, Blanch.

*Mandibulæ et maxillæ obsoletæ. Palpi porrecti, exarticulati. Antennæ prope epistoma, articulo uno insigniore et aristâ. Alæ venis anteriori-*

*bus validis, cum costali circa medium costæ desinentibus; posterioribus subtilissimis, simplicibus, disjunctis. Coxæ et femora crassa, compressa.*

*Mandibles and maxillæ obsolete. Palpi porrect, not jointed. Antennæ seated near the epistoma, with the third joint conspicuous, and with an arista. Wings with the fore veins stout, ceasing with the costal vein about the middle of the costa; hind veins very slender, simple, disjoined. Coxæ and femora thick, compressed.*

## FAMILY XXIX. PHORIDÆ.

PHORIDÆ, Hal. D. B. I. 9 (1851).

This family has been divided into the four following genera:—*Phora*, *Conicera*, *Metopina*, and *Gymnophora*; the three latter are here reunited to *Phora*. *Conicera* is distinguished by the arista of the male, which is vertical and thick towards the base, *Metopina* by its much compressed thorax, and *Gymnophora* by the bare costal vein.

### Genus I. PHORA.

PHORA, Latr. H. N. I. (1796); Steph.; Curt.; Westw.; Zett. *Trineura* et *Conicera*, Meig. *Phora*, *Gymnophora* et *Metopina*, Mcq. *Phora*, *Gymnophora* et *Conicera*, Blanch.

Corpus subcompressum, parvum aut minimum. Caput et thorax convexa, subsetosa. Frons sat lata. Facies subconcava. Oculi mediocres, oblongi, nudi. Ocelli tres. Proboscis brevis. Palpi longi, validi, setosi. Antennæ brevissimæ; articulus tertius rotundus; arista longa, nuda, setiformis. Thorax brevi-ellipticus. Alæ corpore sæpissime paullo longiores; vena costalis plerumque ciliata. Abdomen thorace longius, apicem versus in fœmina præsertim attenuatum; segmenta longitudine subæqualia. Pedes postici longi; femora compressa; ungues et onychia minuta.

Body compressed, small or very minute, slightly shining or dull, with a few bristles. Head and thorax convex. Head vertical. Front rather broad. Face slightly concave. Eyes bare, oblong, of moderate size, convex, not prominent. Ocelli three, on the vertex. Proboscis short. Palpi long, stout, bristly. Antennæ very short; first and second joints extremely small; third round; fourth and fifth obsolete; sixth long, bare, setiform. Thorax short-elliptical; disc bare. Wings generally a little longer than the body, moderately broad, concave on the hind border at the base; costal vein ending before or a little beyond half the length of the wing, generally ciliated; subcostal vein rudimentary; mediastinal vein distinct; radial vein more or less united with the cubital; cubital vein ending at the tip of the costal; præbrachial, pobra-

chial, anal, and axillary veins represented by four veinlets; first springing from near the tip of the cubital, slightly curved; second springing from about the middle of the cubital; third springing from the basal areolet; fourth near the hind border. Halteres small. Abdomen generally narrower and longer than the thorax, attenuated towards the tip, especially in the female; segments nearly equal in length. Legs rather long, especially the hind pair, with a few bristles; femora compressed; tibiæ a little shorter than the femora; tarsi a little longer than the femora; ungues and onychia minute.

The *Phoræ* in the larva state generally feed on decayed vegetable substances, and the species may be distinguished by the variations in the wing-veins of the flies.

a. Costal vein ciliated.

b. Thorax hardly compressed.

c. Radial vein emerging from near the tip of the cubital.

d. Costal vein ending at beyond half the length of the wing.

e. Costal vein ending at much beyond half the length of the wing, emitting a veinlet which extends to full seven-eighths of the length; mediastinal ending at a little beyond half of the length of the costal. First veinlet much curved near the base, straight and nearly parallel to the fore border from thence to the tip, which ends at the tip of the wing; second, third, and fourth nearly straight. Sp. 1, 2.

e e. Costal vein ending at beyond half the length of the wing, emitting a veinlet which extends beyond five-sixths of the length; mediastinal vein ending at very little beyond two-thirds of the length of the costal. First veinlet undulating, ending at some little distance in front of the tip of the wing; second and third nearly straight. Species 3.

e e e. Costal vein ending at a little beyond half the length of the wing, emitting a veinlet which extends to about five-sixths of the length; mediastinal vein at a little beyond half of the length of the costal. First veinlet very slightly curved near the base, straight from thence to the tip, which ends at very little in front of the tip of the wing; second and third slightly undulating. Species 4, 5.

e e e e. Costal vein ending at very little beyond half the length of the wing, emitting a veinlet to beyond five-sixths of the length; mediastinal vein ending at beyond two-thirds of the length of the costal. First veinlet undulating, ending at very little in front of the tip of the wing; second and third nearly straight. Species 6.

e e e e e. Costal vein ending at very little beyond half the length of the wing, emitting a veinlet which extends to about five-sixths of the length; mediastinal vein ending at much beyond half the length of the costal. First veinlet

- slightly curved near the base, straight from thence to the tip, which is very little in front of the tip of the wing; second, third, and fourth nearly straight. Species 7.
- d d.* Costal vein ending at or before half the length of the wing.
- e.* Costal vein ending at half the length of the wing, emitting a veinlet which extends to about five-sixths of the length; mediastinal vein ending at much beyond half the length of the costal. First veinlet slightly curved near the base, straight from thence to the tip, which is hardly in front of the tip of the wing; second, third, and fourth nearly straight. Species 8.
- e e.* Costal vein ending at half the length of the wing, emitting a veinlet which extends to about seven-eighths of the length; mediastinal vein ending at very little beyond half the length of the costal. First veinlet slightly curved inward near the base, nearly straight from thence to the tip, which is very little in front of the tip of the wing; second, third, and fourth very slightly undulating. Species 9.
- e e e.* Costal vein ending at half the length of the wing, emitting a veinlet which extends to three-fourths of the length; mediastinal vein ending at beyond half the length of the costal. First veinlet very slightly curved along the whole length, ending at some distance in front of the tip of the wing; second, third, and fourth nearly straight. Sp. 10.
- e e e e.* Costal vein ending at hardly half the length of the wing, emitting a veinlet to beyond three-fourths of the length; mediastinal vein ending at about five-sixths of the length of the costal. First veinlet almost straight, ending at some little distance in front of the tip of the wing; second, third, and fourth nearly straight. Species 11.
- e e e e e.* Costal vein ending at a little before half the length of the wing, emitting a veinlet which extends to about five-sixths of the length; mediastinal vein ending at full two-thirds of the length of the costal. First veinlet very slightly curved inward along the whole length, ending at very little in front of the tip of the wing; second, third, and fourth nearly straight. Species 12.
- c c.* Radial vein wholly united with the cubital.
- d.* Costal vein ending at much before half the length of the wing, emitting a veinlet which extends to four-fifths of the length; mediastinal vein ending at before two-thirds of the length of the costal. First veinlet much curved near the base, nearly straight and parallel to the fore border from thence to the tip, which ends at a little in front of the tip of the wing; second, third, and fourth nearly straight. Species 13.

- d d.* Costal vein ending at about half the length of the wing, emitting an indistinct veinlet to about five-sixths of the length; mediastinal ending at before half the length of the costal. First veinlet very slightly curved, ending at the tip of the wing; second and third straight. Species 14.
- d d d.* Costal vein ending before half the length of the wing, emitting no visible veinlet; mediastinal vein ending at beyond two-thirds of the length of the costal. Veinlets very indistinct or obsolete.—*Conicera*, Meig. Species 15, 16.
- b b.* Thorax very much compressed.—*Metopina*, Mcq. Species 17.
- a a.* Costal vein not ciliated.—*Gymnophora*, Mcq.; Meig. Zw. vii.; Zett. Species 18.

1. **maculata**, Meig. Zw. vi. 214. 7 (1830); Zett.—*vulgaris* var., Fal. Nigra, palpis antennis halteribus testaceis, alis subfuscescentibus, *macula subcostali fusca*, abdominis segmentis pallide marginatis apice fulvo, pedibus ferrugineis. Long.  $2\frac{1}{4}$ ; alar.  $4\frac{1}{2}$  lin.

Black, dull. Palpi, antennæ, and halteres testaceous. Wings pale-brownish; veins darker; *a brown spot at the tip of the cubital vein*. Hind borders of the abdominal segments pale; tip tawny. Legs ferruginous.

Not common. (E.)

2. **thoracica**, Fal. Phytomyz. 6. 3 (1823); Latr.; Meig.; Mcq.; Zett. Nigra, palpis antennis pedibusque testaceis, *thorace rufo*, alis limpidis apice fuscis, halteribus albidis, tarsis posticis subfuscis. Long.  $2\frac{1}{2}$ ; alar. 5 lin.

Black, dull. Palpi, antennæ, and legs testaceous or pale-tawny. *Thorax red*. Wings limpid, brown towards the tips; veins tawny. Halteres whitish. Hind tibiæ rather bristly; hind tarsi brownish.

Rare. (E.)

3. **abdominalis**, Fal. Phytomyz. 5. 2 (1823); Meig.; Zett. Nigra, palpis antennis abdomineque luteis, alis vix subluridis, pedibus piceis, anticis fulvis. Long.  $1\frac{1}{2}$ –2; alar.  $3\frac{1}{2}$ –4 lin.

Black. Head very bristly. Palpi and antennæ luteous. Wings with an extremely slight lurid tinge; veins tawny. Halteres brown. Abdomen luteous, piceous at the base. Legs piceous, rather bristly; fore legs tawny.

Rare. (E. S.)

4. **dimidiata**, Meig. Zw. vi. 215. 9 (1830); Zett.—*thoracica* var., Fal. Nigra, palpis halteribus pedibusque testaceis, antennis fulvis, *alis luridis apice obscurioribus*, tarsis fuscis. Long.  $1$ – $1\frac{1}{4}$ ; alar.  $2$ – $2\frac{1}{2}$  lin.

Black. Palpi, halteres, and legs testaceous. Antennæ tawny. Thorax ferruginous-piceous. *Wings lurid, darker towards the tips*; veins brown. Legs slender; tarsi brown.

Not rare. (E.)

5. **fuscipes**, Mcq. H. N. D. ii. 627. 10 (1835); Meig.; Hardy; Zett. Nigra, obscura, *alis limpidis*, pedibus piceis validis, tibiis anticis ferrugineis; *Mas*, abdominis apice nitente. Long.  $1\frac{1}{4}$ – $1\frac{1}{2}$ ; alar.  $2\frac{1}{2}$ –3 lin.

Black, dull. *Wings limpid*; veins blackish, strongly marked. Legs piceous, stout; fore tibiæ ferruginous, unarmed; middle tibiæ with two apical spurs; hind tibiæ with three apical spurs; hind metatarsus rather broad. *Male*. Abdomen shining towards the tip.

Not rare in woods during the spring. (E. S.)

6. **floreæ**, F. E. S. iv. 255. 8 (1792); Meig.; Mcq. Nigra, palpis antennisque fulvis, alis sordide hyalinis, halteribus albidis apice fuscis, pedibus piceis, anticis testaceis. Long.  $1\frac{1}{2}$ – $1\frac{3}{4}$ ; alar.  $2\frac{1}{2}$ –3 lin.

Black. Palpi and antennæ tawny. Wings dingy hyaline; veins brown. Halteres whitish, with brown tips. Legs piceous; fore legs testaceous.

Not rare. (E.)

7. **crassicornis**, Meig. Zw. vi. 220. 26 (1830); Mcq.; Zett. Nigra, antennarum articulo tertio magno, alis sordide hyalinis, pedibus piceis, tibiis anticis fulvis. Long.  $1\frac{1}{4}$ ; alar. 3 lin.

Black. Third joint of the antennæ large. Wings dingy hyaline. Legs piceous; fore tibiæ tawny.

Not common. (E.)

8. **rufipes**, F. S. A. 336. 1 (1804); Meig.; Mcq.; Zett.—*palipes*, Latr.; Léon Duf.—*vulgaris* ex parte, Fal.—Var. *annulata*, Meig.; Mcq. Nigro-picea, palpis halteribus pedibusque testaceis, alis subflavescente-hyalinis, abdominis segmentorum marginibus posticis testaceis. Long.  $\frac{3}{4}$ – $1\frac{1}{2}$ ; alar.  $1\frac{1}{2}$ –3 lin.

Piceous-black. Palpi, halteres, and legs testaceous. Wings hyaline, with a very slight yellowish tinge. Hind borders of the abdominal segments occasionally testaceous.

Very abundant. (E. S. I.)

9. **flava**, Fal. Phytomyz. 7. 8 (1823); Meig.; Zett.—*lutea*? Meig.; Mcq.; Zett.—*interrupta*? Zett.—*fasciata*? Fal.; Meig.; Zett. Lutea, vertice abdomineque fasciis integris vel interruptis nonnunquam piceis, alis subflavescente hyalinis, halteribus pedibusque testaceis. Long. 1–2; alar.  $1\frac{1}{2}$ –3 lin.

Luteous. Vertex generally piceous. Wings with a very slight yellowish tinge. Abdomen occasionally with entire or interrupted piceous bands. Halteres and legs testaceous.

Generally distributed. (E. S. I.)

10. **gracilipes**, Meig. Zw. vi. 216. 13 (1830). Nigra, alis subfuscis, venis nigricantibus, halteribus pedibusque piceis, tibiis tarsisque anterioribus fulvis. Long.  $1\frac{1}{4}$ ; alar.  $2\frac{1}{2}$  lin.

Black. Wings brownish; veins blackish. Halteres and legs piceous; anterior tibiæ and tarsi tawny.

Not common. (E.)

11. **funebria**, Meig. Zw. vi. 221. 30 (1830). Atræ, palpis antennis halteribusque piceis, alis subfuscis, pedibus nigris, tarsis anticis basi genubusque fulvis. Long.  $1\frac{3}{4}$ ; alar.  $3\frac{1}{2}$  lin.

Deep-black. Palpi and antennæ piceous. Wings brownish; veins darker. Legs black; fore tarsi at the base and knees tawny.

Not common. (E.)

12. **pumila**, Meig. Zw. vi. 218. 20 (1830); Zett.? Nigra, obscura, palpis venisque fulvis, antennis pedibusque piceis, alis limpidis, halteribus testaceis, pedibus anticis fulvis. Long.  $\frac{2}{3}$ – $1\frac{1}{4}$ ; alar. 1–2 lin.

Black, dull. Antennæ piceous. Palpi tawny. Wings limpid; veins tawny. Halteres testaceous. Legs piceous; fore legs tawny.

Not rare. (E.)

13. **incrassata**, Meig. Zw. vi. 212. 1 (1830); Mcq.; Zett.—*mordellaria* var., Fal. Nigra, obscura, robusta, antennis ferrugineis, alis subluridis, halteribus fulvis, abdominis segmento primo albido-marginato, femoribus incrassatis, pedibus anticis ferrugineis. Long.  $1\frac{1}{2}$ ; alar.  $3\frac{1}{4}$  lin.

Black, dull, rather broad. Antennæ ferruginous. Wings slightly lurid; veins tawny; costal vein and tip of the cubital black. Halteres tawny. Abdomen short; first segment with a whitish border. Legs bristly; femora very stout; fore legs mostly ferruginous.

Not common. (E.)

14. **aterrima**, F. E. S. iv. 334. 93 (1792); Latr.; Coq.; Meig.; Zw.; Mcq.; Zett.; Geoff.; Schell.—*atra*, Meig. Kl.; Fal. Aterrima, brevis, alis albis limpidis, venis nigris, pedibus validis. Long. 1– $1\frac{1}{4}$ ; alar.  $1\frac{1}{2}$ –2 lin.

Deep black. Thorax and abdomen without hairs and bristles. Wings white, limpid; veins black; veinlets pale. Legs rather stout, with a few bristles.

Common. (E. S. I.)

15. **atra**, Meig. Zw. vi. 226. 1 (1830); Mcq.—*Dauci*, Meig. Nigra, brevis, subsetosa, alis limpidissimis, pedibus nigro-piceis, *tibiis anticis ferrugineis*; *Mas*, arista elevata basi incrassata. Long. 1; alar.  $1\frac{1}{2}$  lin.

Black, short, slightly bristly. Wings quite limpid, veins blackish. Legs piceous-black; fore tibiæ ferruginous. *Male*. Arista vertical and incrassated towards the base.

Common. (E. S. I.)

16. **similis**, Hal. E. M. I. 179 (1833). Nigra, *tibiis et tarsis anticis testaceis*, alis subhyalinis; *Mas*, antennis conicis ascendentibus. Long.  $\frac{1}{2}$ ; alar. 1 lin.

Black, half the size of *P. Dauci*, the antennæ shorter. Wings more obscurely hyaline, with conspicuous veins, those of the costa thick and bristly. Fore tibiæ and fore tarsi testaceous.

Not common. (I.)

17. **galatea**, Hal. Ent. Mag. 1. 179 (1833); Mcq. Nigro-fusca, antennis halteribus pedibusque fulvis, thorace gracillimo, alis vix fusciscentibus. Long.  $\frac{1}{2}$ – $\frac{3}{4}$ ; alar.  $\frac{3}{4}$ –1 lin.

Body long, slender, blackish-brown. Head compressed, with the dilated front overhanging the eyes. Palpi pale, prominent, divaricate. Antennæ tawny. Arista ascending, plumose, thickened at the root. Thorax very narrow. Wings slightly brownish or nearly limpid; costa pubescent; veins brown; costal vein ending at about half the length of the wing; mediastinal vein ending at about half the length of the costal; veinlets indistinct. Halteres and legs tawny. Abdomen depressed, very broad behind.

Not rare. (E. I.)

18. **arcuata**, Meig. Zw. vi. 222. 33 (1830); Mcq.; Zett.—*rufipes*, Fal.—*debilis*, Hal. Nigro-fusca, gracilis, nuda, alis fuscis, halteribus pedibusque fulvis. Long. 1–2; alar.  $1\frac{3}{4}$ – $3\frac{1}{2}$  lin.

Body blackish-brown, rather long and slender, almost without hairs and bristles. Wings brown; veins dark brown; costal vein ending at beyond half the length of the wing, emitting a veinlet which extends to five-sixths of the length; mediastinal vein ending at a little beyond three-fourths of the length of the costal; radial vein emerging from near the tip of the cubital. First veinlet very slightly curved, ending at far in front of the tip of the wing; second, third, and fourth slightly undulating. Halteres tawny. Legs slender, tawny, without hairs and bristles.

Var. *debilis*, Hal. E. M. I. 179 (1833). Fusca, thorace cano-lineato, alis et pedibus inermibus testaceis.

Brown. Thorax with hoary lines. Wings deep brown, with darker veins, and hyaline streaks between.

Not rare. (E. I.)

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## EPROBOSCIDEA.

EPROBOSCIDEA, Hal. Ins. Brit. Dipt. 1. 6 (1851). *Omalopectera*, Leach. *Pupipara*, Latr.; Mcq. *Coriaceæ*, Meig. *Homalopectera*, Macleay; Steph.; Curt. *Thoracocephala*, Westw. *Ornithomyia*, Blanch.



*Labium tubulosum, superne fissum, basi inflatum, lingua tenui inclusa et labro incumbente inter palpos porrectos fere vaginatum. Antennæ foveolis immersæ prope os. Alæ et halteres sæpius mutila vel nulla. Abdomen coriaceum, vix insectum. Pedes dissiti sterno lato. Ungues duplicati vel triplicati.*

Palpi extra fulcrum labii siti, nec cum eo exserendi. Oculi multiformes. Thorax depressus. Prosternum ultra capitis insertionem porrectum. Alæ ubi completæ fere ut in *Brachyceris*. Abdomen basi constrictum. Ungues et onychia imparia, utraque ex adverso, i. e. unguis major onychium minus subjectum habet et vice versa. Ungues ad scansum apti.

*Labium tubulose, cleft above, inflated at the base, and together with the included slender tongue and with the incumbent labrum between the porrect palpi almost forming a vagina. Antennæ deep set in furrows near the mouth. Wings and halteres most often imperfect, or none. Abdomen coriaceous, hardly with incisures. Legs parted by the broad sternum. Ungues double or triple.*

Palpi seated beyond the fulcrum of the labium, and not exerted with it. Eyes of various form. Thorax depressed. Prosternum extending in front beyond the insertion of the head. Wings, when complete, almost like those of the *Brachycera*. Abdomen contracted at the base. Ungues and onychia unequal, that is, when the one are small the other are large. Ungues formed for clinging.

These flies are parasites of Mammalia and birds, and feed on the substance at the roots of the hairs or of the feathers.

### FAMILY XXX. HIPPOBOSCIDÆ.

HIPPOBOSCIDÆ, Leach, Eprobosc. Ins. (1815); Curt.; Steph.; Westw. Coriaceæ, Mcq. Ornithomyites, Blanch.

*Caput pronum. Collum supra prosternum recumbens.*

*Head prone; the neck lying on the prosternum.*

"The species of this family pass their egg and larva state in the body of the mother, and when born are pupæ, or larvæ just ready to assume the pupa state, as is proved by their size, which nearly equals that of the parent fly, by their slight motion when first extruded, by spiraculiform points which run down each side of them, and by their changing into perfect flies. Each female produces only a single egg. The proboscis consists of a pair of hairy coriaceous valves, which include a very slender rigid tube or siphuncle, the instrument of suction, which is formed by the union of two setiform pieces. Almost the whole of the wing is occupied by the apical areolets, which in some instances are incomplete."

|                |   |                       |   |   |                  |                        |   |                |                |
|----------------|---|-----------------------|---|---|------------------|------------------------|---|----------------|----------------|
| Wings          | { | complete.             | Ocelli                                  | { | none.            | Discal transverse vein | { | distinct . . . | 1. HIPPOBOSCA. |
|                |   |                       |   |   |                  |                        |   | none . . .     | 2. ORNITHOBIA. |
|                | { | three.                | Præbrachial and discal transverse veins | { | close together . | 3. ORNITHOMYIA.        |   |                |                |
|                |   |                       |   |   | far apart . .    | 4. HÆMOBORA.           |   |                |                |
|                | { | very narrow . . . . . | 5. STENOPTERYX.                         |   |                  |                        |   |                |                |
| none . . . . . |   | 6. MELOPHAGUS.        |   |   |                  |                        |   |                |                |

Genus I. **HIPPOBOSCA.**

HIPPOBOSCA p., L. Fn. 1921 (1761); D. G.; F.; Schr.; Rossi; Panz.; Latr.; Fal.; Meig.; Mcq.; Curt.; Westw.; Zett.; Blanch. *Nirmomyia*, Nitzsch.

Corpus mediocre, ovatum, depressum, coriaceum. Caput parvum. Oculi magni, oblongi. *Ocelli nulli*. Os capitis dimidio brevius. Thorax suturis duabus transversis, antica interrupta. Sternum latum. Alæ completæ, mediocres; venæ longitudinalis et transversæ distinctæ. Halteres minuti. Abdomen pilosum, subpetiolatum; latera antice mucronata. Pedes robusti. Ungues duo, longi, validi, curvati. Onychia parva.

Body of middle size, oval, depressed, tough, coriaceous, shining, slightly hairy and bristly. Head small, about half the breadth of the thorax, circular, including the eyes. Vertex slightly raised. Front and face flat; front concave in front. Epistoma concave, bristly beneath. Eyes large, oblong, slightly convex, bare, not prominent, with very small facets. *Ocelli none*. Mouth less than half the length of the head. Antennæ extremely short; first and second joints indistinct; third round; arista setiform, bare, with only one visible joint. Thorax rather broader than long, bare on the disc, slightly bristly on the sides, with two transverse sutures; one in front interrupted in the middle, the second between the wings slightly curved. Sternum broad. Wings of moderate size, rather stout; costal vein ending at about three-fourths of the length of the wing; subcostal vein ending at a little before half the length; mediastinal vein ending at a little beyond half the length; radial vein ending at a little beyond the mediastinal; cubital vein ending very near the tip of the costal; præbrachial vein obsolete at a short distance beyond the præbrachial transverse vein; pobrachial vein much nearer to the fore border than to the hind border of the wing, obsolete at a little beyond the *discal transverse vein, which is very oblique*. Halteres minute. Abdomen hairy, compact, subpetiolated, with a process on each side in front; sutures of the joints indistinct. Legs rather short, very stout, slightly bristly, the four posterior very wide apart; tibiæ a little shorter than the femora; tarsi but little more than half the length of the tibiæ; unguis long, stout, curved,

bidentate; onychia small. *Male.* Abdomen nearly linear, shorter and narrower than the thorax. *Fem.* Abdomen somewhat oval, longer and broader than the thorax.

1. **equina**, L. Fn. 1921 (1761); D. G.; F.; Schr.; Rossi; Pz.; Latr.; Nitzsch; Fal.; Meig.; Mcq.; Curt.! B. E. ix. pl. 421; Zett. Nigra, capite thoraceque fulvo flavoque variis, alis sordide hyalinis, pedibus fulvis, tibiis posterioribus et femoribus nigro-subfasciatis, unguibus nigris. Long.  $3-3\frac{1}{2}$ ; alar. 8 lin.

Black. Head tawny-yellow. Front black. Face pale-yellow. Eyes, mouth, and antennæ black. Thorax with a very large spot on each side in front, and with the borders of the segments tawny-yellow; three pale-yellow spots forming an interrupted stripe on the disc, the third more or less triangular on the scutellum. Pectus with slight transverse furrows on each side. Wings somewhat dingy hyaline; veins brown. Abdomen clothed with pale hairs. Legs tawny; femora and posterior tibiæ with imperfect black bands; ungues black.

Very abundant in the New Forest, Hampshire. (E.)

## Genus II. **ORNITHOBIA.**

ORNITHOBIA, Meig. Zw. vi. 229 (1830).

Corpus parvum, subovatum, depressum, coriaceum. Caput mediocre, thoracis dimidio paullo latius. Frons linearis, antice subconca. Facies subexcavata. Epistoma incisum. *Ocelli nulli.* Os capitis dimidio non longius. Antennæ non ciliatæ. Thorax longitudine latius, suturis duabus transversis sulcoque uno longitudinali. *Alæ completæ, mediocres, venis distinctis, discali transversa nulla.* Abdomen brevi-obconicum, thorace paullo brevius. Pedes longitudine mediocres. Ungues longi, validi, curvati, bidentati. Onychia parva.

Body of rather small size, nearly oval, depressed, tough, coriaceous, shining, slightly hairy and bristly. Head of moderate size, a little more than half the breadth of the thorax, a little broader than long, bristly in front. Front linear, slightly concave in front. Face slightly excavated. Epistoma deeply notched. Eyes large, oblong, slightly convex, bare, not prominent, with very small facets. *Ocelli none.* Mouth not more than half the length of the head. Antennæ extremely short; first and second joints indistinct; third round; arista setiform, bare, with only one visible joint. Thorax broader than long, bare on the disc, slightly bristly on each side, with two transverse nearly straight sutures, and with a very slight longitudinal furrow. Sternum broad. Wings stout, of moderate size; costal vein ending at about three-fourths of the length of the wing; subcostal vein ending at before one-third of the length; mediastinal vein ending before half the length; radial vein ending at much beyond half the length; cubital vein ending at the tip

of the costal; præbrachial vein at about one-fourth of the breadth of the wing from the fore border, parallel with the cubital as far as the præbrachial transverse, more slight from thence to the hind border; *no discal transverse vein*; pabrachial vein slight along the whole length except near the base; anal vein slight but distinct. Abdomen short-obconical, slightly bristly at the tip, a little shorter than the thorax; sutures of the segments indistinct. Legs stout, almost bare, wide apart, of moderate length; tibiæ a little shorter than the femora; tarsi hardly more than half the length of the tibiæ; unguis long, stout, curved, bidentate; onychia small.

1. **pallida**, Meig. Zw. vi. 230. l. pl. 63. f. 21-24 (1830). Fulva, capite testaceo-vario, thoracis disco fuscescens, margine postico testaceo, alis cinereis. Long.  $2\frac{1}{2}$ ; alar. 6 lin.

Tawny, paler beneath. Head testaceous along the eyes and in front. Eyes brown. Disc of the thorax brownish; hind border testaceous. Wings grey, hyaline; veins dark brown. Unguis black.

Infests birds. Rare. (E.)

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### Genus III. ORNITHOMYIA.

ORNITHOMYIA, Olfers, Leach Eprobosc. Ins. (1815); Latr.; Meig.; Westw.; Mcq.; Blanch. *Hippobosca* p., L.; F.; D. G.; Schr.; Gmel.; Fal. *Ornithomyza*, Zett.

Caput mediocre aut parvum, subellipticum, depressum, coriaceum. Caput mediocre. Oculi magni, oblongi. *Ocelli tres*. Os capitis triente brevius. Thorax longitudine latius, suturis duabus transversis. Alæ completæ, longæ, *venis* distinctis, *transversis approximatis*. Abdomen brevi-obconicum, thorace brevius. Pedes longitudine mediocres. Unguis sat longi, curvati, tridentati. Onychia parva.

Body of middle or rather small size, subelliptical, depressed, tough, coriaceous, shining, slightly hairy and bristly. Head of moderate size, more than half the breadth of the thorax, broader than long, very bristly in front. Front flat, concave in front, decreasing in breadth from the vertex to the face, which is somewhat excavated. Epistoma concave. Eyes large, oblong, slightly convex, bare, not prominent, with very small facets. *Ocelli three*. Mouth less than one-third of the length of the head. Antennæ extremely short, ciliated; first and second joints indistinct; third round; arista setiform, bare, with only one visible joint. Thorax broader than long, bare on the disc, slightly bristly on the sides, with two transverse sutures, one in front, interrupted in the middle, the second between the wings, slightly curved. Sternum broad. Wings rather long and stout; costal vein ending at beyond three-fourths of the length of the wing; subcostal and mediastinal veins ending near together at before one-third of the length; radial vein ending at before

two-thirds of the length; cubital vein ending at the tip of the costal; præbrachial vein distinct to the border of the wing at some distance behind the tip; pabrachial vein somewhat nearer to the fore border than to the hind border as far as the discal transverse vein, distinct from thence to the border; *discal transverse vein slightly curved, nearly upright, parted by less than half its length from the præbrachial transverse vein*; anal vein distinct to the border, with a transverse vein between it and the pabrachial. Halteres minute. Abdomen short-obconical, not so long as the thorax; segments with indistinct sutures above, retracted beneath towards the base. Legs stout, slightly bristly, wide apart, of moderate length; tibiæ shorter than the femora; tarsi shorter than the tibiæ; unguis moderately long, curved, tridentate; onychia small.

Infests birds.

1. **avicularia**, L. Fn. 1922 (1761); D. G.; F.; Schr.; Gmel.; Rossi; Leach; Latr.; Fal.; Meig.; Mcq.; Zett.—*viridis*, Leach; Latr.; Meig.—*viridula*, Meig.—*Fringillina*, Curt. ! B. E. xiii. pl. 585. Fulvo-viridis, fronte thoracisque dorso fulvis, oculis ore antennisque fuscis, thoracis vitta dorsali testacea, alis subcinereo-hyalinis, unguibus nigris. Long. 2-2½; alar. 6-7 lin.

Green, more or less varied with tawny, which colour chiefly prevails on the front and on the thorax. Eyes, mouth, and antennæ brown. Thorax with a testaceous dorsal stripe. Wings greyish-hyaline; veins blackish. Ungues black.

Common. (E. S. I.)

#### Genus IV. **HÆMOBORA.**

HÆMOBORA, Curt. B. E. i. 14 (1824).

Caput transversum, subtrigonum. Oculi parvi. *Ocelli tres*. Thorax capite paullo lator, subquadratus. Alæ longæ, *venæ distinctæ, transversæ remotæ*.

"Head broader than long, somewhat triangular. Eyes very remote, small. *Ocelli three, in a triangle, sunk in foveolæ*. Antennæ inserted close to the anterior angles of the clypeus, globular, hairy, sunk into the head. Labrum horny, elongate, hollow, slightly arched, enclosing the lingua. Lingua nearly as long as the labrum, slender. Labium horny, arched, hollow, enclosing the labrum and the lingua. Maxillæ? rigid, obtuse, ciliated with strong hairs, united at their internal ridges, bent downwards, including the proboscis, and extending beyond the head like a beak. Mentum large, coriaceous, membranaceous, covering and concealing the base of the proboscis. Thorax a little broader than the head, nearly quadrate, dilated near the base of the wings, notched in front. Scutellum broad and short. Wings very long, rounded;

first marginal or mediastinal areolet extending to one-third of the length of the wing; second marginal areolet very long, rounded at the end; discal areolets united; six obscure imperfect veins extending to the posterior margin; *transverse veins far apart*. Abdomen small, nearly conical, pedunculated, coriaceous towards the base, spongy towards the tip. Claws lengthened at their base on each side of the onychia."—*Curtis*.

1. **pallipes**, Curt.! B. E. i. 14 (1824). Flavo-viridis, fusconebulosa, pilis nonnullis rigidis vestita, oculis unguibusque nigris, alis sublimpidis, costa subciliata, venis flavis. Long. 2; alar. 4 lin.

"Greenish-yellow, shining, clouded with brown, with strong hairs scattered over the limbs and body. Eyes and claws black. Thorax beneath punctured and covered with short, strong, erect hairs. Wings nearly transparent; veins yellow, the costa slightly ciliated."—*Curtis*.

Very rare. (E.)

#### Genus V. **STENOPTERYX.**

STENOPTERYX, Leach, Eprobosc. Ins. (1815); Meig.; Meq.; Zett.; Blanch. *Hippobosca* p., L.; F.; Schr.; Gmel.; Fal. *Ornithomyia* p., Latr.; Nitzsch. *Oxypterum*, Kirby; Westw.; Blanch. *Craterina*, Olfers; Westw. *Anapera*, Meig.

Corpus parvum, subtrigonum, depressum, coriaceum. Caput mediocre, thoracis antici dimidio latius. Frons lata, linearis, antice valde concava. Facies excavata. Epistoma incisum. Os capitis quadrarii longitudine. Thorax non bene determinatus, antice angustior et concavus, sutura una transversa unaque longitudinali. Scutellum parvum. Alæ incompletæ, plus minusve acuminatæ. Abdomen subrotundum, apice truncatum, thorace latius. Ungues longi, validi, curvati, tridentati. Mas. Ocelli tres. Alæ longæ, valde angustæ et acuminatæ. Fem. Ocelli nulli. Alæ breves, trigonæ.

Body of rather small size, nearly triangular, depressed, tough, coriaceous, shining, slightly hairy and bristly. Head of moderate size, more than half the breadth of the front of the thorax, longer than broad, bristly in front. Front broad, flat, linear, very concave on the fore border. Face somewhat excavated. Epistoma notched. Eyes of moderate size, oblong, slightly convex, bare, not prominent. Ocelli three. Mouth about one-fourth of the length of the head. Antennæ like tubercles, bristly. Thorax but little developed, narrower and concave in front, slightly concave on each side, with two slight sutures, one transverse, the other longitudinal. Scutellum small, convex in front. Sternum broad. Wings incomplete, ciliated in front; costal vein more than two-thirds of the length of the wing; longitudinal veins crowded together close to the costal. Abdomen hairy, nearly round, broader

than the thorax, truncated at the tip; sutures of the segments very indistinct. Legs very stout, bristly, moderately long, wide apart. Tibiæ a little shorter than the femora; tarsi much shorter than the tibiæ; ungues long, stout, curved, tridentate; onychia small. *Male*. Ocelli three. *Wings long, very narrow, acuminate*. Abdomen a little longer and broader than the thorax, much truncated in the middle at the tip. *Fem*. Eyes smaller than those of the male. Ocelli none. *Wings short, triangular*; præbrachial, pabrachial, and anal veins distinct to the border; discal transverse vein straight, oblique, parted by a little less than its length from the præbrachial transverse.

1. **Hirundinis**, L. Fn. 1923 (1761); F.; Schr.; Rossi; Fal.; Leach; Latr.; Meig.; Mcq.; Zett.—*Kirbyana*, Leach; Meig.; Mcq. Fulva aut testacea, alis sublimpidis, unguibus nigris. Long. 2–2½; alar. 4½–5 lin.

Tawny or testaceous. Wings nearly limpid; veins tawny. Abdomen sometimes ferruginous. Ungues black.

Infests swallows. Generally distributed. (E. S. I.)

## Genus VI. **MELOPHAGUS.**

MELOPHAGUS, Latr. Gen. iv. 36 (1809); Leach; Meig.; Mcq.; Westw.; Blanch. *Hippobosca* p., L.; F.; Schr.; Gmel.; Fal.; Pz. *Pediculus* p., Frisch. *Melophila*, Nitzsch. *Melophaga*, Zett.

Corpus parvum, depressum, coriaceum. Caput magnum, transversum, thorace paullo latius, subtus trigonum. Frons antice tuberculata et subconcaua. Facies brevis. Epistoma subconvexum. Oculi parvi. Ocelli nulli. Thorax parvus, sublinearis, tuberculatus. *Alæ nullæ*. Abdomen subrotundum, thorace paullo longius et multo latius. Pedes robusti. Ungues longi, validi, curvati, bidentati.

Body of small size, depressed, tough, coriaceous, shining, hairy and bristly. Head large, a little broader than the thorax, broader than long, triangular beneath. Front tuberculated and bristly in front, where the border is very slightly concave. Face short. Epistoma slightly convex. Eyes small, oblong, slightly convex, bare, not prominent. Ocelli none. Mouth as long as the head. Antennæ like tubercles. Thorax nearly linear, slightly convex, tuberculate, bristly, not developed. Sternum broad. Prosternum much advanced. *Wings none*. Abdomen nearly round, hairy, a little longer and much broader than the thorax; sutures of the segments very indistinct. Legs very stout, bristly, moderately long, wide apart. Tibiæ shorter than the femora. Tarsi hardly shorter than the tibiæ. Ungues long, stout, curved, bidentate.

"The union of the valves of the sheath is so short that they

appear like a tube; but if cut off they will separate and show the siphuncle, as fine as a hair, between them."

1. **ovinus**, L. Fn. 1923 (1761); F.; Schr.; Frisch; Pz.; Nitzsch; Fal.; Latr.; Leach; Meig.; Mcq.; Zett.—*aptera*, L. I. Westrogoth. Fulvus, capite subtus albido, abdomine ferrugineo, unguibus nigris. Long. 2 lin.

Tawny. Head whitish beneath. Eyes brown. Abdomen ferruginous. Ungues black.

Generally distributed. (E. S. I.)

### FAMILY XXXI. NYCTERIBIDÆ.

NYCTERIBIDÆ, Leach, Eprobosc. Ins. (1815). *Notostomata*, Leach, Suppl. Enc. Brit. *Nycteribiidæ*, Westw. *Phthiromyi*, Latr.; Mcq. *Nycteribiites*, Blanch. *Diptera* p., Latr.

*Caput reversum, et subversum, supra mesonotum.*

*Head turned back, and upside down, over the mesonotum.*

#### Genus I. **NYCTERIBIA.**

NYCTERIBIA, Latr. Préc. Car. Gén. (1795); F. S. A.; Fal.; Meig.; Mont.; Leach; Curt.; Westw.; Mcq.; Zett. *Pediculus* p., L. Fn. *Acarus* p., F. Sp. *Hippobosca* p., L.; F. Ent. Syst.; Schr.; Voigt. *Celeripes*, Mont. *Phthiridium*, Herm.; Olfers; Leach.

Caput parvum, obconicum, antice setosum et emarginatum. Oculi tuberculis paucis, aut simplices. Os basi tumidum, antice styloforme. Antennæ biarticulatæ, brevissimæ, approximatae, porrectæ, parallelæ; articulus secundus primo longior, subtrigonus, externe rotundatus. Thorax brevi-ovatus, supra elevato-areolatus, subtus planus, linea media longitudinali, appendice utrinque pectinata. Pedes crassi, longissimi, setosi; coxæ anticæ sat longæ; trochanteres brevissimi; femora valida, compressa, transverse impressa; tibiæ graciliores, basi quasi triarticulatæ; tarsi articulo primo longissimo subannulato, secundo, tertio, quartoque brevissimis, quinto longiore; onychia duo magna; ungues duo validi, basi subtus dilatati. *Mas.* Abdomen 5- aut 6-articulatum. *Fœm.* Abdomen quasi biarticulatum.

Body crustaceous; thorax above and abdomen leathery. Head small, obconical, furnished with setæ, and slightly emarginate in front above, more deeply so beneath. Eyes composed of a few tubercles, or simple. Mouth with a large basal bulb-like organ, terminating in an elongated,



slender, and horny style. Antennæ biarticulate, inserted in the superior margin of the front of the head, very short, contiguous, porrect, parallel; second joint larger than the first, subtriangular, rounded externally. Thorax short-oval above, divided into compartments by narrow crustaceous ridges; underside quite flat, of a uniform crustaceous texture, with a central longitudinal line running from the anterior to the posterior extremity; a pectinated process on each side of the thorax, placed between the base of the fore and middle legs, and received in a cavity formed by the lateral productions of the dorsum and pectus. Legs thick, very long, furnished with strong bristles, inserted at the anterior and lateral margins of the thorax, the pectoral shield extending beneath at the base of each; fore coxæ distinct, bristly, rather long; trochanters very short; femora thick, compressed, with a transverse impression before the middle of the limb; tibiæ more slender but not longer than the femora, with three slight traces of articulation towards the base; basal joint of the tarsi very long, apparently annulated; three following joints very short; fifth much larger, furnished with a pair of large onychia, and with two strong claws, which are dilated at the base beneath. *Male*. Abdomen composed of five or six segments. *Fem.* Abdomen with only two apparent segments.

Infest bats.

a. Abdomen of the female with two long styles.—Subgenus *Stylidia*, Westw. Species 1.

a a. Abdomen of the female without styles. Species 2.

1. **biarticulata**, Herm. Mém. Apt. pl. 6. f. 1 (1804); Lea. Zool. Misc.; Westw.—*Hermanni*, Lea. Enc. Brit.—*vespertilionis*, Mont. Pallide ochracea, thorace subtus concolore, abdomine obscuriore, pedibus elongatis, dilatatis, longi-setosis, seta unica ad basin tibiæ longissima, coxis anticis brevibus; *Mas*, abdomine 6?-articulato, subtus ad apicem stylis duobus incurvis ad ventrem adpressis; *Fcem.* abdomine quasi biarticulato, segmento primo supra longius producto, stylis duobus caudalibus elongatis cylindricis porrectis ad apicem longi-setosis. Long.  $1\frac{1}{4}$ –2 lin.

Pale ochraceous. Abdomen darker. Legs long, dilated, with long bristles; a single very long bristle at the base of the tibiæ; fore coxæ short. *Male*. Abdomen apparently six-jointed, having at the tip beneath two styles, which are curved and applied to the underside. *Fem.* Abdomen apparently six-jointed, with the first segment most lengthened above, and with two anal long cylindrical porrect styles, which are beset with long bristles at the tips.

Rare. In the British Museum. (E.)

2. **Vespertilionis**, L. Fn. 1941 (1761); F.; Gmel.; Schr.; Latr.; Meig.; Mcq.; Zett.—*Latreillii*, Lea.; Curt. ! B. E. vi. pl. 277; Westw. Pallide ochracea, thoracis pectore latiore et brevior, pectinibus thoracis unguibusque nigris, pedibus perbrevibus, femoribus tibiisque

valde dilatatis, setis obscuris elongatis, tarsorum articulo primo reliquis conjunctim vix longiore; *Mas*, abdomine 6-articulato, segmento ultimo longiore conico-truncato, subtus laminis duabus distantioribus elongatis incurvis ad ventrem adpressis styloque intermedio armato; *Fem.* abdomine ovali absque appendiculis, apice inciso, subtus segmento basali distincto, seriebusque transversis setarum rigidarum instructo. Long.  $\frac{3}{4}$ - $1\frac{1}{4}$  lin.

Pale ochraceous. Pectus short and broad. Pectinated processes of the thorax and ungues black. Legs very short; femora and tibiæ much dilated, with long dusky bristles; first joint of the tarsi hardly longer than all the rest together. *Male*. Abdomen with six segments; the last segment the longest, conical-truncated, armed beneath with two long remote curved laminæ, which are applied to the underside, and with an intermediate style. *Fem.* Abdomen oval, without appendages, notched at the tip; underside furnished with transverse series of rigid bristles; first segment distinct beneath.

Rare. In the British Museum. (E.)

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| <i>intacta</i> . . . . .          | 43     | <i>quadricincta</i> . . . . .    | 84     | <i>putris</i> . . . . .        | 212  |
| <i>intaminata</i> . . . . .       | 48     | <i>reclusa</i> . . . . .         | 32     | <b>Trixa</b> . . . . .         | 100  |
| <i>intercedens</i> . . . . .      | 31     | <i>refecta</i> . . . . .         | 50     | <i>dorsalis</i> . . . . .      | 100  |
| <i>intercepta</i> . . . . .       | 34     | <i>reformata</i> . . . . .       | 63     | <i>scutellata</i> . . . . .    | 101  |
| <i>interclusa</i> (see <i>Er-</i> |        | <i>rejecta</i> . . . . .         | 79     | <i>variegata</i> . . . . .     | 100  |
| <i>rata</i> ) . . . . .           | 32, 48 | <i>retracta</i> . . . . .        | 80     | <b>Trypeta</b> . . . . .       | 198  |
| <i>interlapsa</i> . . . . .       | 37     | <i>reventa</i> . . . . .         | 70     | <i>Absinthii</i> . . . . .     | 202  |
| <i>interlatens</i> . . . . .      | 35     | <i>roralis</i> . . . . .         | 33     | <i>aprica</i> . . . . .        | 206  |
| <i>intermixta</i> . . . . .       | 39     | <i>rubrica</i> . . . . .         | 42     | <i>Arctii</i> . . . . .        | 205  |
| <i>interna</i> . . . . .          | 69     | <i>rudis</i> . . . . .           | 71     | <i>Arnicae</i> . . . . .       | 201  |
| <i>internexa</i> . . . . .        | 62     | <i>rufoscutellata</i> . . . . .  | 51     | <i>Artemisiae</i> . . . . .    | 199  |
| <i>intersecta</i> (see <i>Er-</i> |        | <i>ruricola</i> . . . . .        | 49     | <i>Bardanae</i> . . . . .      | 204  |
| <i>rata</i> ) . . . . .           | 38, 76 | <i>senta</i> . . . . .           | 68     | <i>Cardui</i> . . . . .        | 206  |
| <i>intersita</i> . . . . .        | 72     | <i>separata</i> . . . . .        | 67     | <i>cognata</i> . . . . .       | 199  |
| <i>intracta</i> . . . . .         | 23     | <i>simplex</i> . . . . .         | 35     | <i>corniculata</i> . . . . .   | 203  |
| <i>involuta</i> . . . . .         | 53     | <i>spinipennis</i> . . . . .     | 89     | <i>cornuta</i> . . . . .       | 205  |
| <i>laeta</i> . . . . .            | 79     | <i>stabulans</i> . . . . .       | 28     | <i>florescentiae</i> . . . . . | 201  |
| <i>lateralis</i> . . . . .        | 34     | <i>terminalis</i> . . . . .      | 47     | <i>Gædii</i> . . . . .         | 198  |
| <i>laticella</i> . . . . .        | 72     | <i>tessellata</i> . . . . .      | 20     | <i>guttularis</i> . . . . .    | 202  |
| <i>leucocephala</i> . . . . .     | 83     | <i>torta</i> . . . . .           | 64     | <i>Heraclei</i> . . . . .      | 199  |
| <i>longipes</i> . . . . .         | 66     | <i>tremula</i> . . . . .         | 31     | <i>Leontodontis</i> . . . . .  | 204  |
| <i>longirostris</i> . . . . .     | 56     | <i>viridis</i> . . . . .         | 26     | <i>marginata</i> . . . . .     | 202  |
| <i>lurida</i> . . . . .           | 21     | <i>viridulans</i> . . . . .      | 29     | <i>parietina</i> . . . . .     | 203  |
| <i>melania</i> . . . . .          | 68     | <i>volatica</i> . . . . .        | 84     | <i>serratulae</i> . . . . .    | 201  |
| <i>mera</i> . . . . .             | 65     | <i>vulgaris</i> . . . . .        | 85     | <i>solstitialis</i> . . . . .  | 205  |
| <i>morosa</i> . . . . .           | 44     | <i>vulpina</i> . . . . .         | 28     | <i>Sonchi</i> . . . . .        | 200  |
| <i>motor</i> . . . . .            | 71     | <i>ursina</i> . . . . .          | 21     | <i>stellata</i> . . . . .      | 204  |
| <i>multans</i> . . . . .          | 82     | <i>usta</i> . . . . .            | 39     | <i>Zoe</i> . . . . .           | 200  |
| <i>munita</i> . . . . .           | 82     | <b>TACHINIDES</b> . . . . .      | 6      | <b>Ulidia</b> . . . . .        | 193  |
| <i>nana</i> . . . . .             | 39     | <b>Tetanocera</b> . . . . .      | 165    | <i>demandata</i> . . . . .     | 194  |
| <i>neglecta</i> (see <i>Er-</i>   |        | <i>aratoria</i> . . . . .        | 167    | <b>Zodion</b> . . . . .        | 3    |
| <i>rata</i> ) . . . . .           | 25, 79 | <i>cucullaria</i> . . . . .      | 166    | <i>cinereum</i> . . . . .      | 4    |
| <i>nexa</i> . . . . .             | 63     | <i>ferruginea</i> . . . . .      | 168    |                                |      |

## ERRATA.

Page 2, line 5 from the bottom, *for compact bodies, read compact structure.*

„ 14, The following list of the additional species of *Tachina*, which have been recorded as British, was accidentally omitted :—

- |                                 |                                 |                                 |
|---------------------------------|---------------------------------|---------------------------------|
| 1. <i>echinata, Meig.</i>       | 21. <i>prepotens, Meig.</i>     | 41. <i>dubia, Fal.</i>          |
| 2. <i>consobrina, Meig.</i>     | 22. <i>larvarum, L.</i>         | 42. <i>exigua, Meig.</i>        |
| 3. <i>vagans, Meig.</i>         | 23. <i>nitidula, Meig.</i>      | 43. <i>argyrocephala, Meig.</i> |
| 4. <i>radicum, F.</i>           | 24. <i>cincta, Meig.</i>        | 44. <i>pruinosa, Meig.</i>      |
| 5. <i>Histrio, Meig.</i>        | 25. <i>verticalis, Meig.</i>    | 45. <i>vertiginosa, F.</i>      |
| 6. <i>nemorum, Meig.</i>        | 26. <i>devia, Fal.</i>          | 46. <i>silvatica, Fal.</i>      |
| 7. <i>glabrata, Meig.</i>       | 27. <i>agrestis, Fal.</i>       | 47. <i>modesta, Meig.</i>       |
| 8. <i>4-pustulata, F.</i>       | 28. <i>floralis, Fal.</i>       | 48. <i>festinans, Fal.</i>      |
| 9. <i>variegata, Meig.</i>      | 29. <i>simulans, Meig.</i>      | 49. <i>turrita, Meig.</i>       |
| 10. <i>conspersa, Meig.</i>     | 30. <i>vidua, Meig.</i>         | 50. <i>cellaris, Fal.</i>       |
| 11. <i>ignobilis, Meig.</i>     | 31. <i>hortulana, Meig.</i>     | 51. <i>separata, Meig.</i>      |
| 12. <i>amœna, Meig.</i>         | 32. <i>angustipennis, Meig.</i> | 52. <i>seria, Meig.</i>         |
| 13. <i>egens, Wied.</i>         | 33. <i>arvensis, Meig.</i>      | 53. <i>stupida, Meig.</i>       |
| 14. <i>melanocephala, Meig.</i> | 34. <i>aratoria, Meig.</i>      | 54. <i>schistacea, Meig.</i>    |
| 15. <i>parvicornis, Meig.</i>   | 35. <i>spretæ, Meig.</i>        | 55. <i>longicornis, Fal.</i>    |
| 16. <i>nigra, Meig.</i>         | 36. <i>plebeia, Fal.</i>        | 56. <i>coracina, Meig.</i>      |
| 17. <i>maculata, Fal.</i>       | 37. <i>luctuosa, Meig.</i>      | 57. <i>lugens, Meig.</i>        |
| 18. <i>gagatina, Meig.</i>      | 38. <i>vetusta, Meig.</i>       | 58. <i>riparia, Desv.</i>       |
| 19. <i>venosa, Meig.</i>        | 39. <i>setipennis, Meig.</i>    | 59. <i>eunctans, Meig.</i>      |
| 20. <i>lepidæ, Meig.</i>        | 40. <i>albicollis, Meig.</i>    |                                 |

Page 33, line 8, *for Desv.; Meig.; read Meig.*

„ 46, line 7, *for defecta, read confecta.*

„ 48, line 19, *for interclusa, read exclusa.*

„ 71, line 21, *for puparum, read conducta.*

„ 76, line 13, *for intersecta, read exsecta.*

„ 79, line 4 from the bottom, *for neglecta, read collecta.*

„ 84, line 20, *for Steph. MSS., read Steph. MSS.*

„ 99, line 25, and p. 113, line 21, *for Wied., read Wied.*

„ 152, *after Genus II. SCATOPHAGA, insert SCATOPHAGA, Latr. G. C. iv. 358 (1810); Meig.; Desv.; Meq.; Curt.; Westw. Musca p., L.; F.; Gmel; Schr. I. A. Volucella p., Schr. F. B. Scatomyza, Fal.; Zett.*

„ 163, line 5, under HETEROMYZA, *for costal vein armed with spines, read costal vein without spines.*

„ 198, line 13 from the bottom, *for Sphenilla read Sphenella; and line 7 from the bottom, for Tephitis, read Tephritis.*

„ 243, line 12, *for Alcyrodes, read Alecyrodes.*





## PLATE XI.

### FAMILY XXVII. MUSCIDÆ. Division 1. *CALYPTERATÆ*.

#### Subfamily 1. MYOPIDES.

GENUS 1. **Zodion**. Fig. 1. *Zodion cinereum*. 1 *a*, head, sideways; 1 *b*, antenna; 1 *c*, abdomen, sideways.

GENUS 2. **Myopa**. Fig. 2 *a*, head of *M. ferruginea*, sideways; 2 *b*, mouth of ditto (from Curtis); *a*, labrum; *b*, lingua; *c*, maxilla; *d*, palpus; *e*, labium; 2 *c*, abdomen of male; 2 *d*, extremity of wing.

#### Subfamily 2. TACHINIDES.

GENUS 1 (3). **Phasia**. Fig. 3. *Phasia subcoleoprata*. 3 *a*, head, seen in front; 3 *b*, antenna.

GENUS 2 (4). **Ocyptera**. Fig. 4 *a*, head of *O. Brassicaria*, seen sideways; 4 *b*, antenna; 4 *c*, wing.

GENUS 3 (5). **Phania**. Fig. 5. *Phania thoracica*. 5 *a*, head, sideways; 5 *b*, abdomen of male, sideways.

GENUS 4 (6). **Gymnosoma**. Fig. 6. *Gymnosoma rotundata*. 6 *a*, head, sideways.

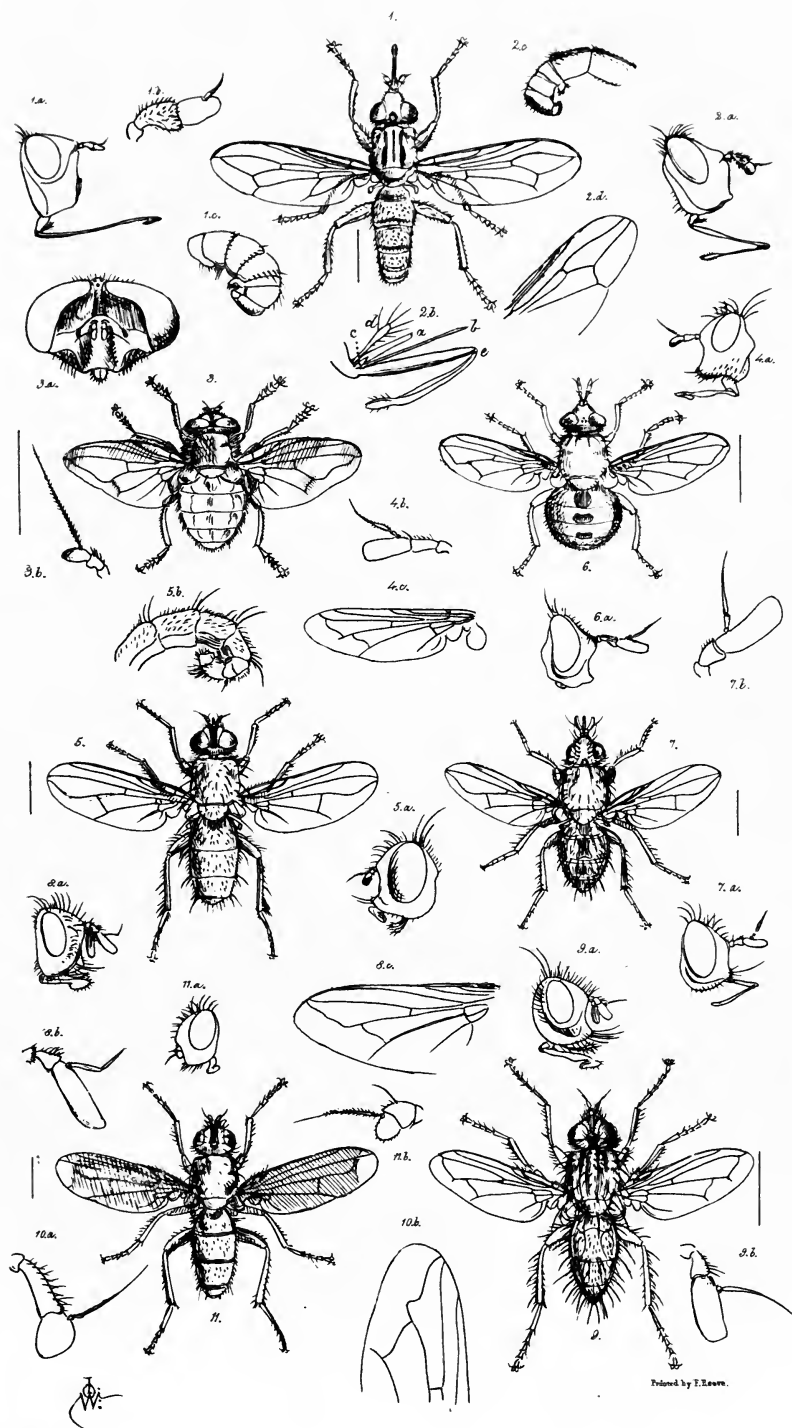
GENUS 5 (7). **Bucentes**. Fig. 7. *Bucentes geniculatus*. 7 *a*, head, sideways; 7 *b*, antenna.

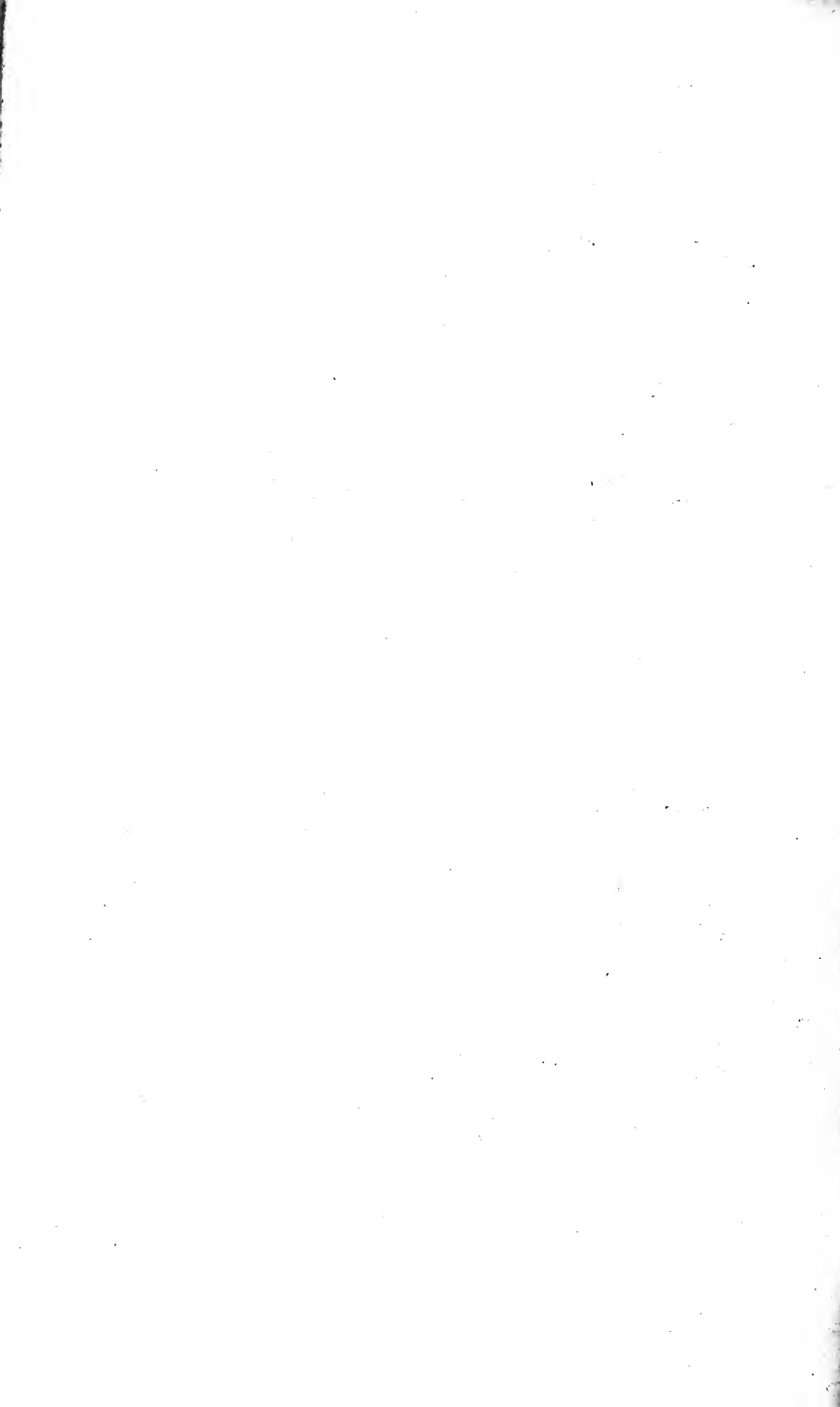
GENUS 6 (8). **Gonia**. Fig. 8 *a*, head of *Gonia capitata*, sideways; 8 *b*, antenna; 8 *c*, extremity of wing.

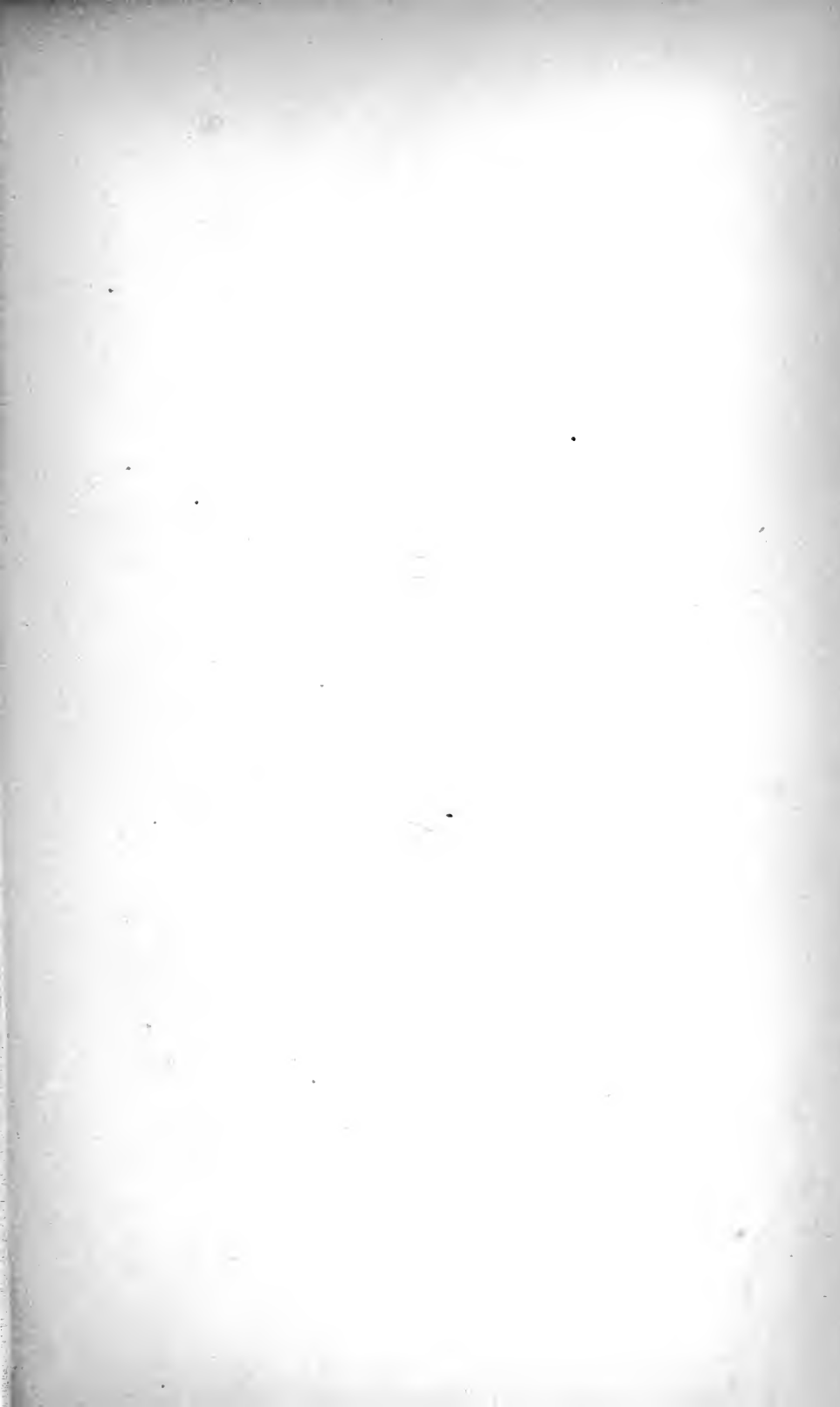
GENUS 7 (9). **Tachina**. Fig. 9. *Tachina tremula*: 9 *a*, head, sideways; 9 *b*, antenna. Fig. 10 *a*, antenna of *Tachina grossa*; 10 *b*, extremity of wing. Fig. 11. *Tachina roralis*: 11 *a*, head, sideways; 11 *b*, antenna.

J. O. W.

# DIPTERA, Pl. XI.







## PLATE XII.

### FAMILY XXVII. MUSCIDÆ (continued).

#### Subfamily 3. DEXIDES.

GENUS 1 (10). **Prosenia**. Fig. 1 *a*, head of *Prosenia Siberita*, sideways; 1 *b*, antenna; 1 *c*, wing.

GENUS 2 (11). **Dexia**. Fig. 2. *Dexia nigripes*. 2 *a*, head, sideways; 2 *b*, antenna.

#### Subfamily 4. SARCOPHAGIDES.

GENUS 1 (12). **Trixa**. Fig. 3. *Trixa variegata*. 3 *a*, head, sideways; 3 *b*, antenna (from Meigen).

GENUS 2 (13). **Sarcophaga**. Fig. 4. *Sarcophaga mortuorum*, male. 4 *a*, extremity of abdomen, sideways. Fig. 5 *a*, head of *Sarcophaga carniaria*; 5 *b*, antenna.

#### Subfamily 5. MUSCIDES.

GENUS 1 (14). **Musca**. Fig. 6. *Musca vomitoria*: 6 *a*, head, sideways; 6 *b*, mouth; 6 *c*, antenna. Fig. 7 *a*, head of *Musca (Mesembrina) meridiana*, sideways; 7 *b*, wing of ditto.

GENUS 2 (15). **Stomoxys**. Fig. 8 *a*, head of *Stomoxys calcitrans*, seen sideways.

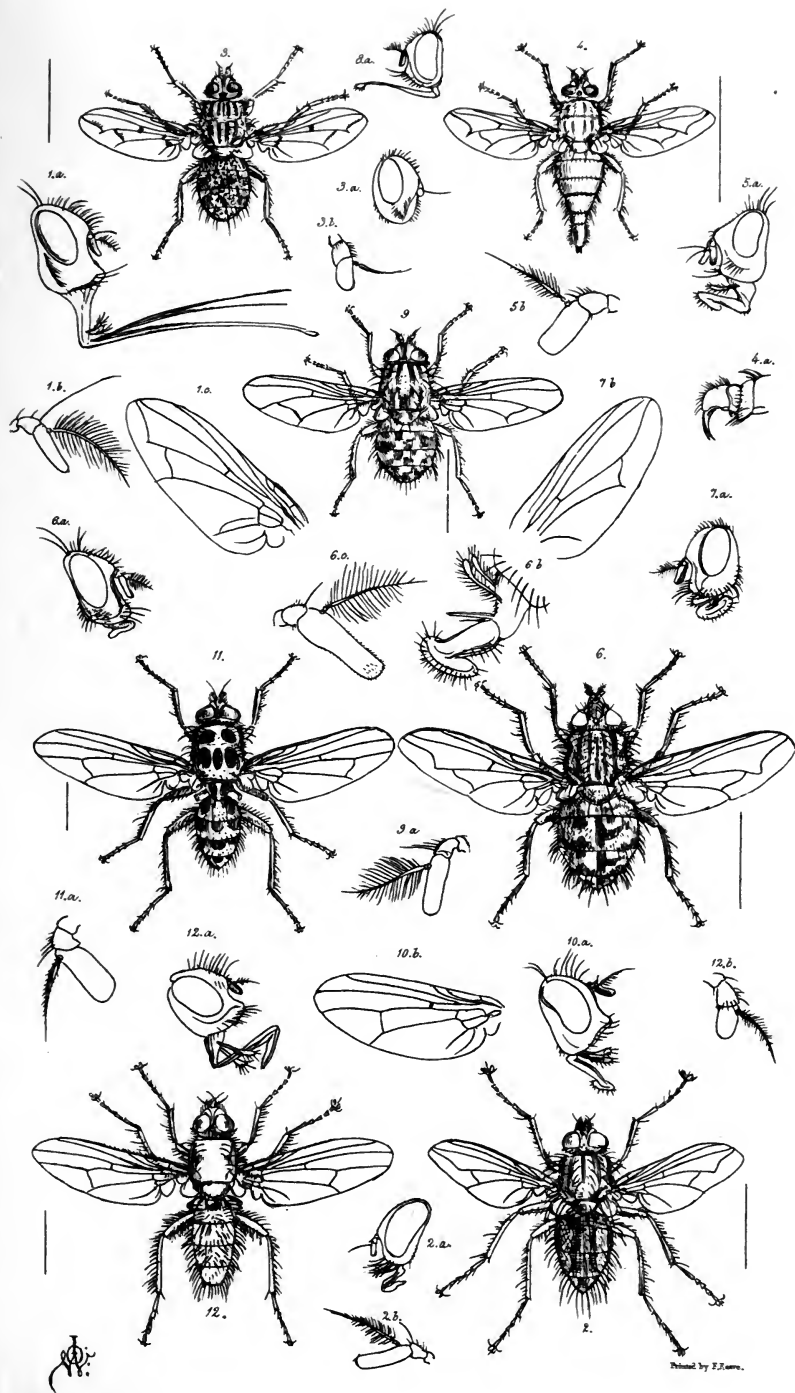
#### Subfamily 6. ANTHOMYZIDES.

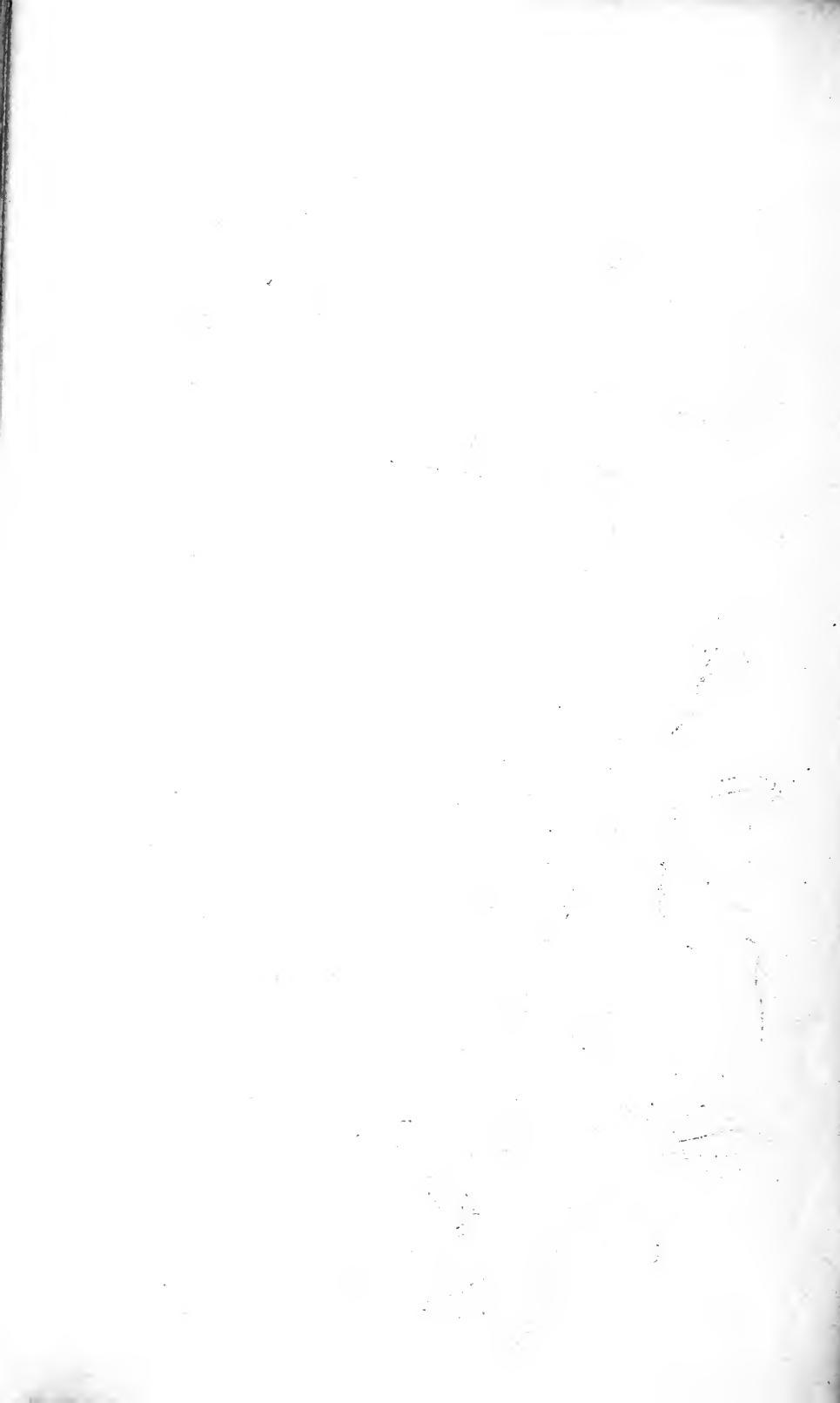
GENUS 1 (16). **Anthomyia**. Fig. 9. *Anthomyia lardaria*: 9 *a*, antenna. Fig. 10 *a*, head of *Anthomyia tigrina*; 10 *b*, wing of ditto. Fig. 11. *Anthomyia pluvialis*: 11 *a*, antenna.

GENUS 2 (17). **Drymeia**. Fig. 12. *Drymeia hamata*. 12 *a*, head of ditto, sideways; 12 *b*, antenna.

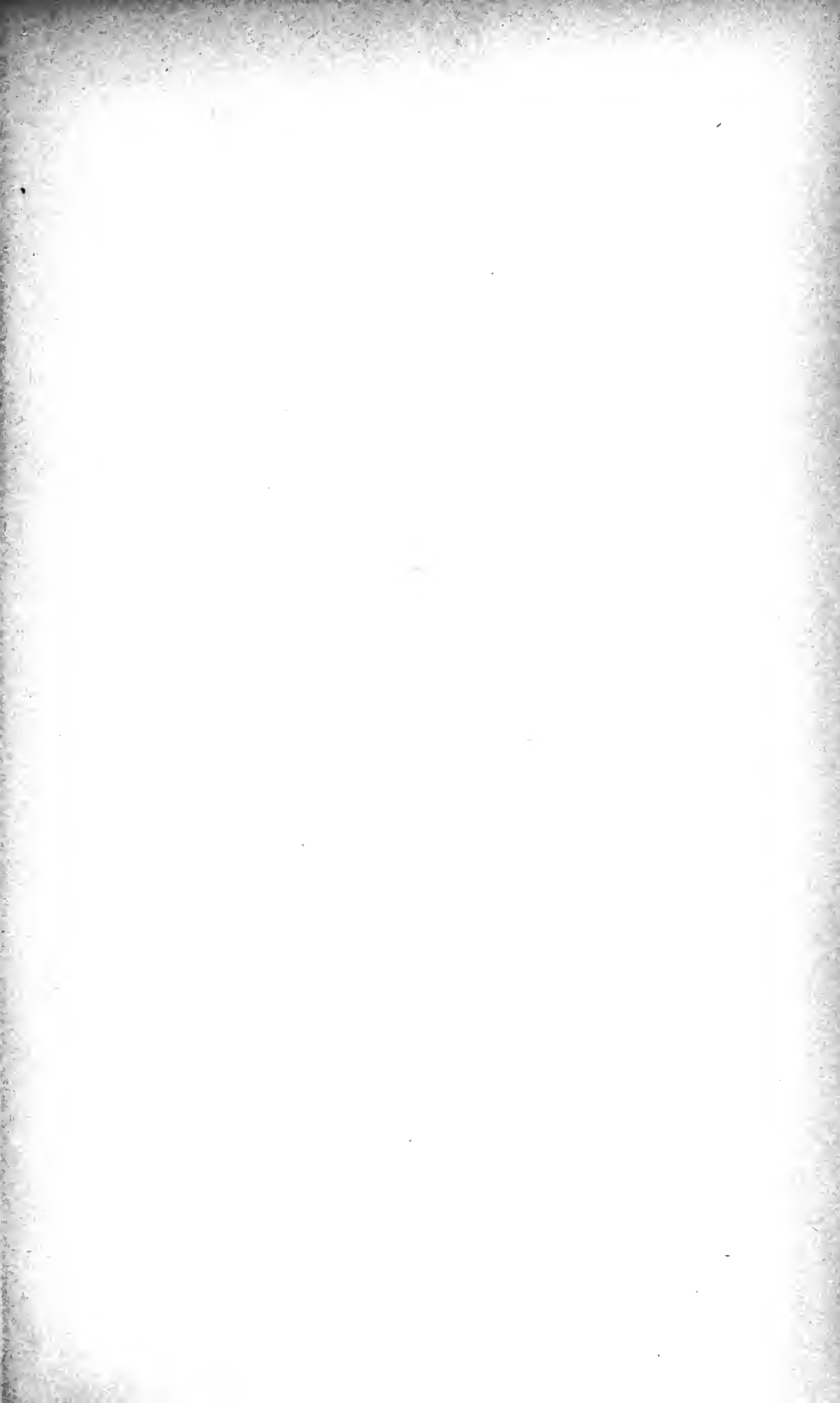
J. O. W.

# DIPTERA, Pl. XII.









## PLATE XIII.

### FAMILY XXVII. MUSCIDÆ (continued).

#### Subfamily 6. ANTHOMYZIDES (continued).

GENUS 3 (18). **Lispe**. Fig. 1. *Lispe tentaculata*. 1 *a*, head, seen sideways, with the antennæ removed; 1 *b*, one of the palpi; 1 *c*, antenna.

#### Division 2. ACALYPTERATÆ.

##### Subfamily 1. HELOMYZIDES.

GENUS 1 (19). **Cordylura**. Fig. 2. *Cordylura pubera*, male. 2 *a*, head, sideways; 2 *b*, abdomen of male, sideways; 2 *c*, antenna of *Cordylura obscura*.

GENUS 2 (20). **Scatophaga**. Fig. 3 *a*, head of *Scatophaga stercoraria*. 3 *b*, antenna; 3 *c*, wing.

GENUS 3 (21). **Cœlopa**. Fig. 3. *Cœlopa frigida*. 4 *a*, head, sideways; 4 *b*, antenna.

GENUS 4 (22). **Orygma**. Fig. 5. *Orygma luctuosa*. 5 *a*, head, sideways; 5 *b*, antenna; 5 *c*, extremity of abdomen of male, beneath.

GENUS 5 (23). **Actora**. Fig. 6 *a*, head of *Actora æstuum*, sideways; 6 *b*, antenna.

GENUS 6 (24). **Sciomyza**. Fig. 7. *Sciomyza albo-costata*. 7 *a*, head, sideways; 7 *b*, antenna.

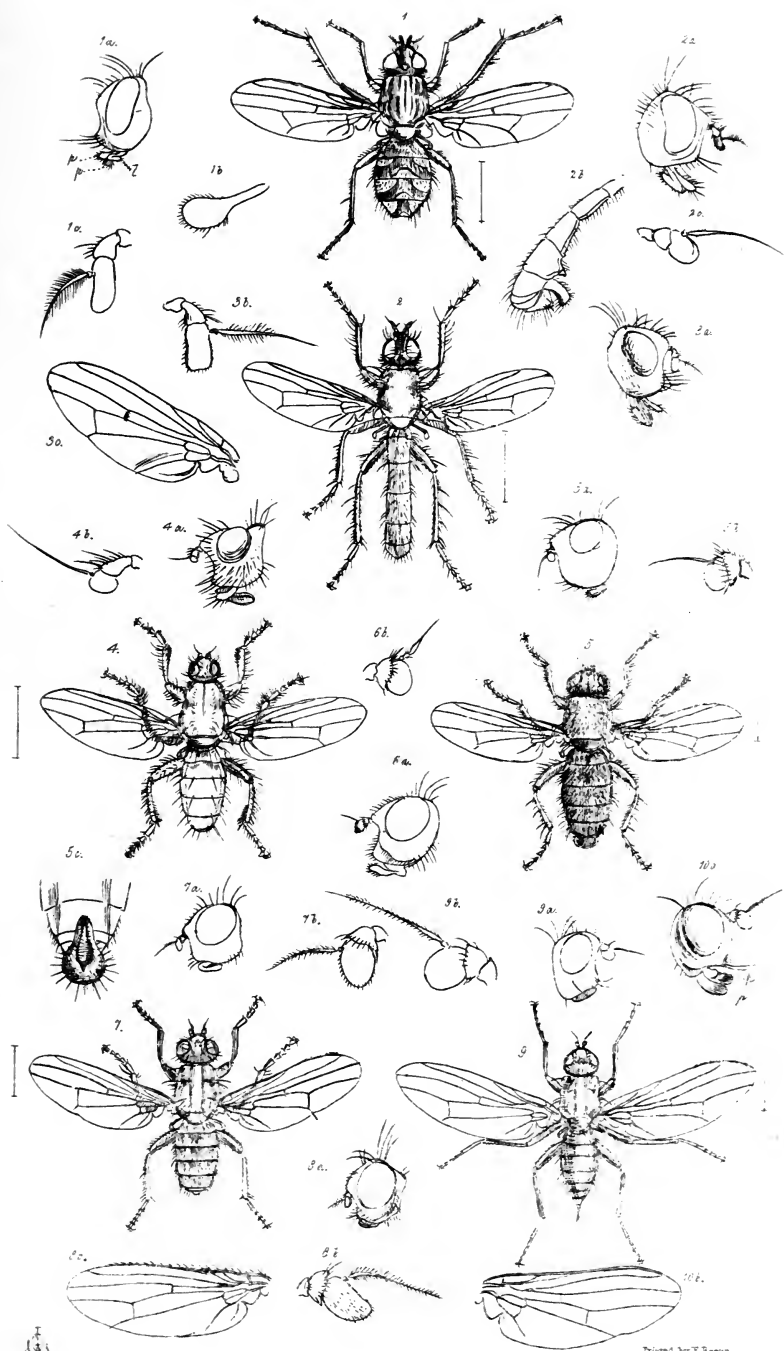
GENUS 7 (25). **Helomyza**. Fig. 8 *a*, head of *Helomyza rufa*, sideways; 8 *b*, antenna; 8 *c*, wing.

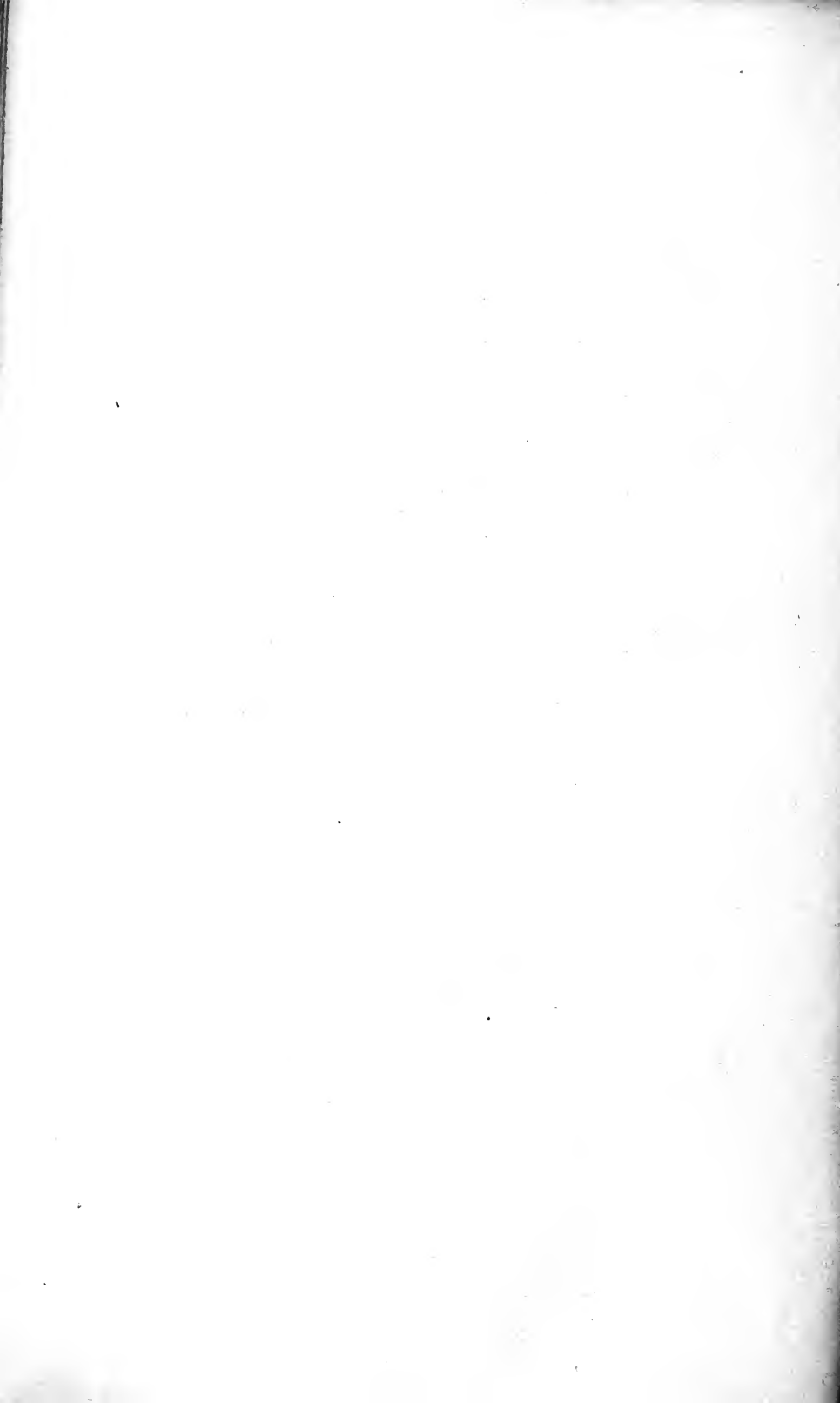
GENUS 8 (26). **Leria**. Fig. 9. *Leria serrata*. 9 *a*, head, sideways; 9 *b*, antenna.

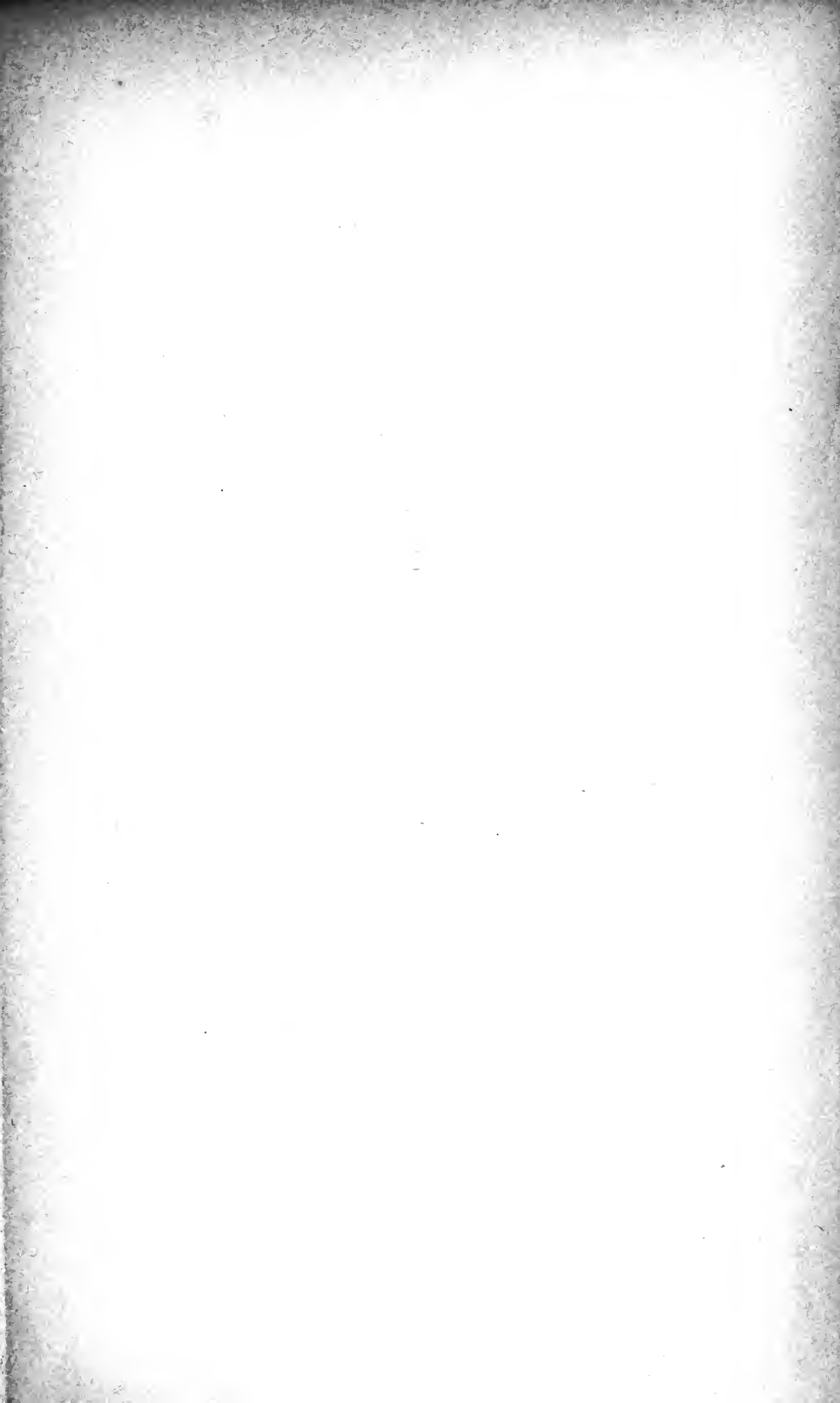
GENUS 9 (27). **Heteromyza**. Fig. 10 *a*, head of *Heteromyza flava*, seen sideways; *p p*, palpi; 10 *b*, wing.

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# DIPTERA. PL. XIII.







## PLATE XIV.

### FAMILY XXVII. MUSCIDÆ (continued).

#### Subfamily 1. HELOMYZIDES (continued).

- GENUS 10 (28). **Dryomyza**. Fig. 1. *Dryomyza flaveola*. 1 *a*, head, sideways; 1 *b*, antenna.
- GENUS 11 (29). **Tetanocera**. Fig. 2. *Tetanocera ferruginea*. 2 *a*, head, sideways; 2 *b*, antenna.
- GENUS 12 (30). **Trigonometopus** (Curtis). Fig. 3 *a*, head and thorax of *Trigonometopus frontalis*, Meig., from above (after Curtis); 3 *b*, head of ditto, sideways.
- GENUS 13 (31). **Sepedon**. Fig. 4 *a*, head of *Sepedon sphegeus*, sideways; 4 *b*, hind leg.
- GENUS 14 (32). **Dorycera**. Fig. 5 *a*, head of *Dorycera graminum*, from above; 5 *b*, ditto, sideways; 5 *c*, antenna.
- GENUS 15 (33). **Lucina** (Meig.; Curtis). Fig. 6 *a*, head, sideways; 6 *b*, antenna (after Curtis).

#### Subfamily 2. BORBORIDES.

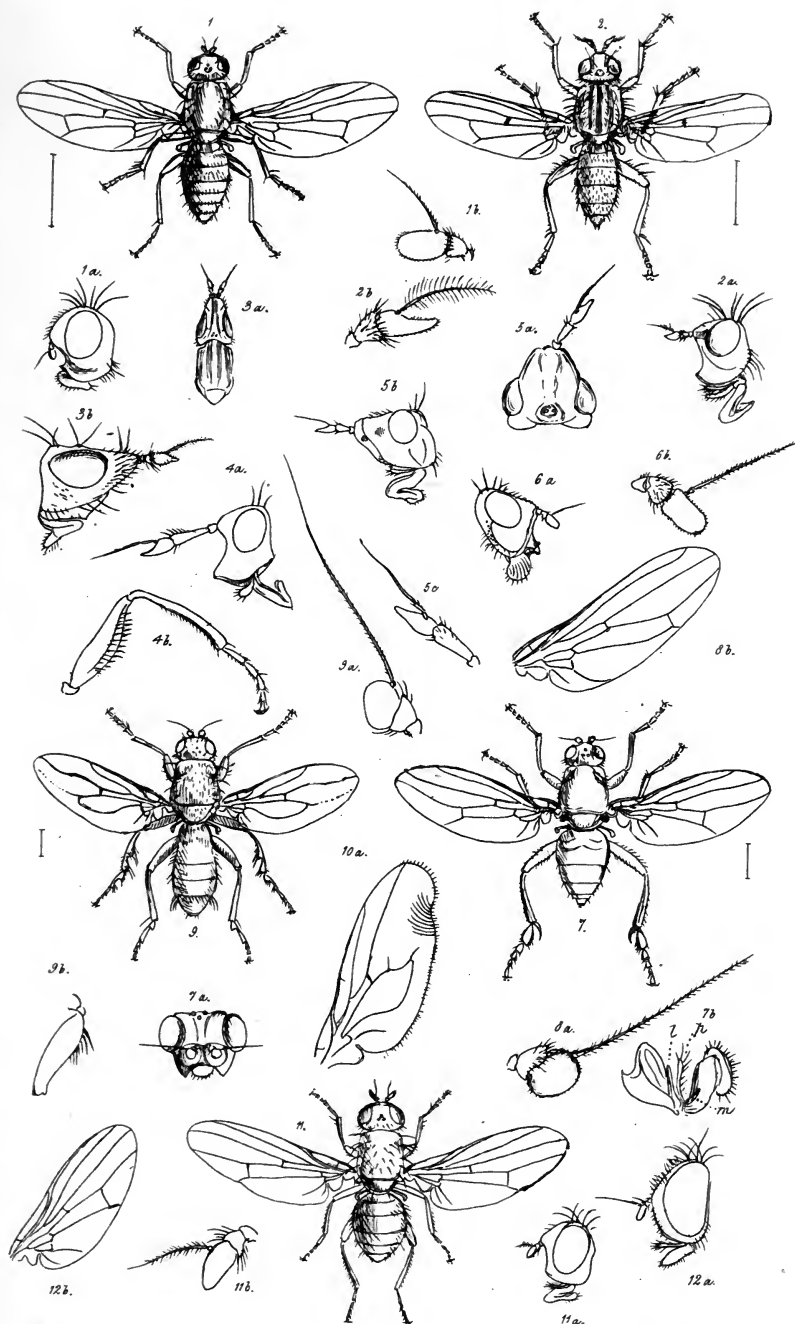
- GENUS 1 (34). **Sphærocera**. Fig. 7. *Sphærocera subsultans*. 7 *a*, head, in front; 7 *b*, mouth (after Curtis); *l*, labrum; *m*, maxilla; *p*, palpus.
- GENUS 2 (35). **Borborus**. Fig. 8 *a*, antenna of *Borborus nitidus*; 8 *b*, wing of ditto.
- GENUS 3 (36). **Limosina**. Fig. 9. *Limosina sylvatica*, male. 9 *a*, antenna; 9 *b*, middle femur of male.
- GENUS 4 (37). **Heteroptera**. Fig. 10 *a*, wing of *Heteroptera pusilla*, emarginate near the extremity of the hinder margin, and furnished with a series of ten bristles, which are decumbent when at rest on the disc of the wing.

#### Subfamily 3. LAUXANIDES.

- GENUS 1 (38). **Lauxania**. Fig. 11. *Lauxania ænea* (natural size,  $\frac{1}{8}$  of an inch long, omitted). 11 *a*, head, sideways; 11 *b*, antenna.
- GENUS 2 (39). **Lonchæa**. Fig. 12 *a*, head of *Lonchæa vaginalis*; 12 *b*, wing.

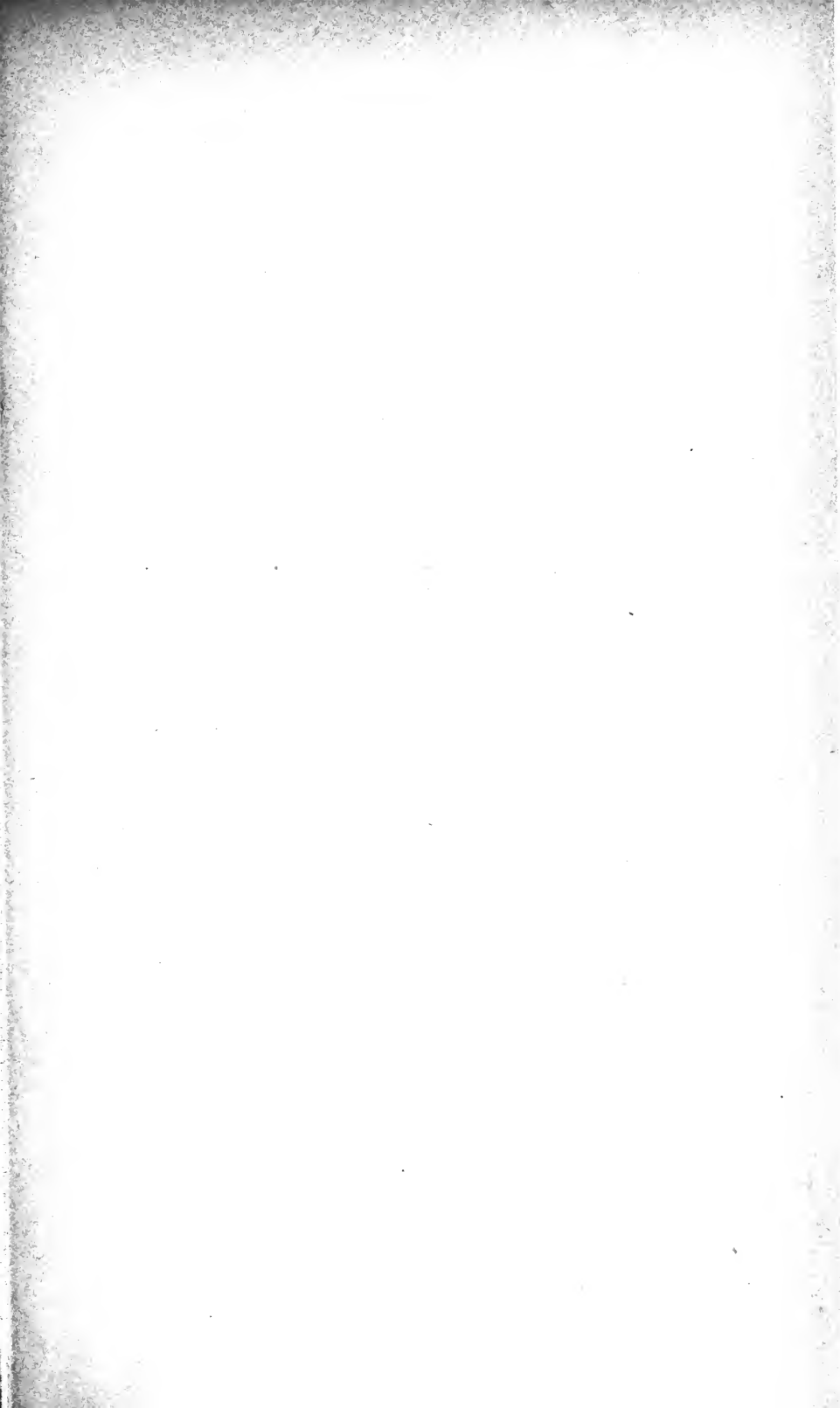
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# DIPTERA, PL. XIV.









## PLATE XV.

### FAMILY XXVII. MUSCIDÆ (continued).

#### Subfamily 3. LAUXANIDES (continued).

GENUS 3 (40). **Palloptera**. Fig. 1. *Palloptera decem-punctata*. 1 *a*, head, sideways; 1 *b*, mouth of *Palloptera litura* (from Curtis); 1 *l*, labrum; *t*, lingua or tongue; *mx*, maxilla; *p*, palpus; 1 *l* 2, labium; 1 *c*, antenna.

GENUS 4 (41). **Ochthiphila**. Fig. 2 *a*, head of *Ochthiphila ari-della*, seen sideways; 2 *b*, antenna; 2 *c*, wing.

#### Subfamily 4. ORTALIDES.

GENUS 1 (42). **Platystoma**. Fig. 3 *a*, head of *Platystoma semi-nationis*; 3 *b*, wing; 3 *c*, antenna.

GENUS 2 (43). **Ulidia**. Fig. 4. *Ulidia demandata*. 4 *a*, head, sideways.

GENUS 3 (44). **Ortalis**. Fig. 5. *Ortalis vibrans*. 5 *a*, head, sideways; 5 *b*, head of *Ortalis crassipennis*; 5 *c*, antenna of ditto.

GENUS 4 (45). **Trypeta**. Fig. 6. *Trypeta corniculata*. 6 *a*, head, sideways; 6 *b*, head of *Trypeta Heraclii*, sideways; 6 *c*, antenna of ditto; 6 *d*, mouth of *Trypeta cornuta*, fem., with swollen bristly palpi (from Curtis, *Tephritis c.*)

#### Subfamily 5. SEPSIDES.

GENUS 1 (46). **Sepsis**. Fig. 7. *Sepsis punctum*, male. 7 *a*, head, sideways; 7 *b*, antenna.

GENUS 2 (47). **Enicita**. Fig. 8 *a*, fore leg of *Enicita annulipes*; 8 *b*, hind tarsus; 8 *c*, wing of ditto.

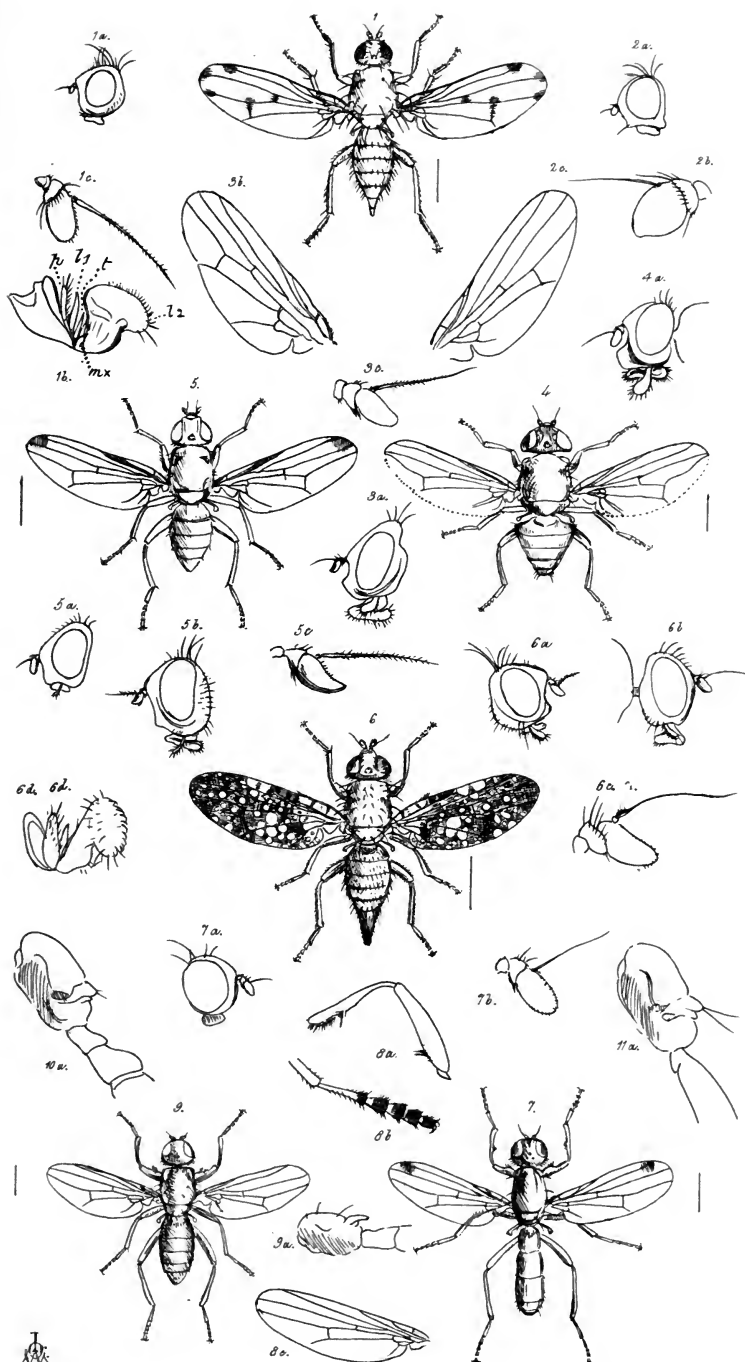
GENUS 3 (48). **Saltella**. Fig. 9. *Saltella scutellaris*. 9 *a*, thorax and base of abdomen, seen sideways.

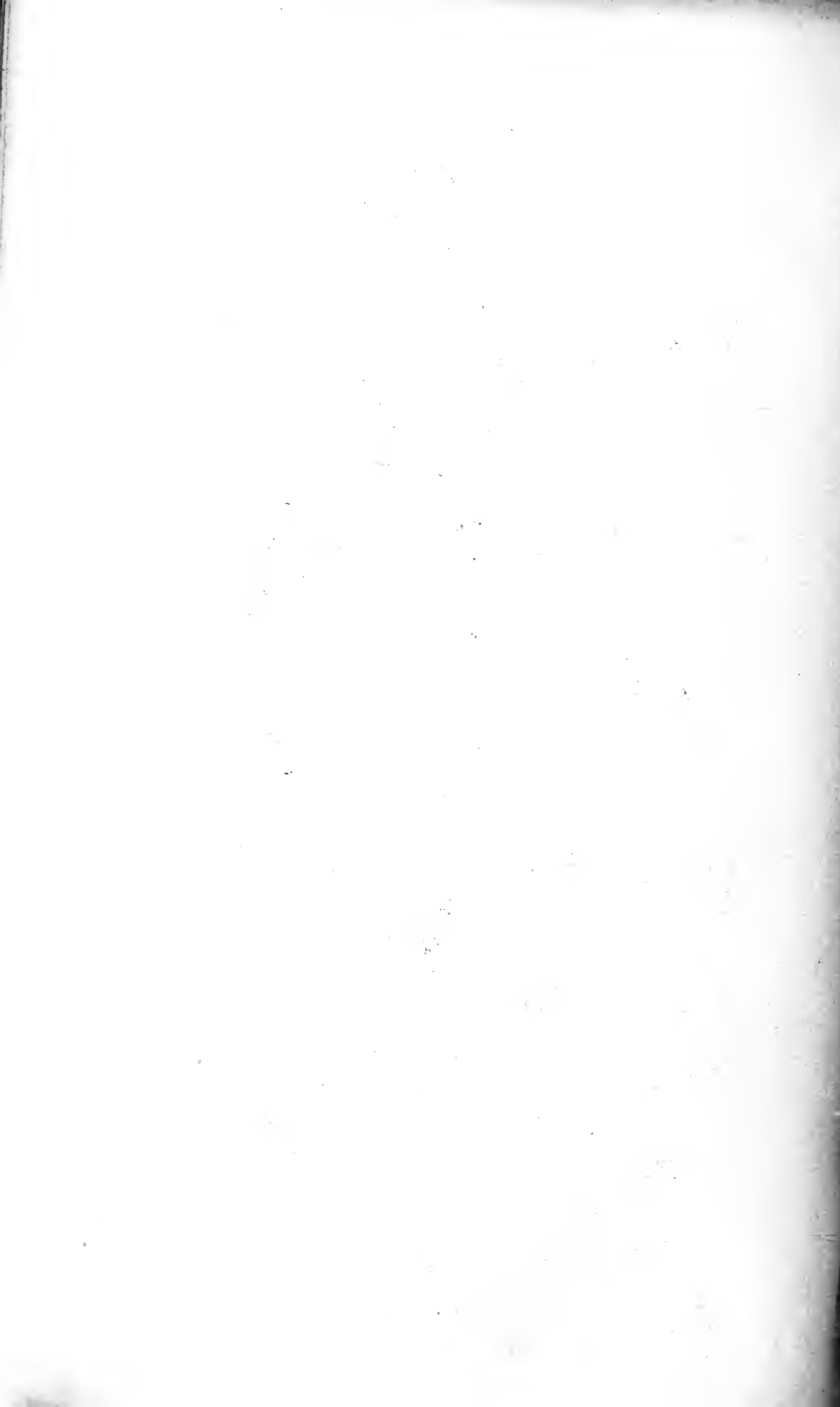
GENUS 4 (49). **Nemopoda**. Fig. 10 *a*, thorax and base of abdomen of *Nemopoda cylindrica*, seen sideways.

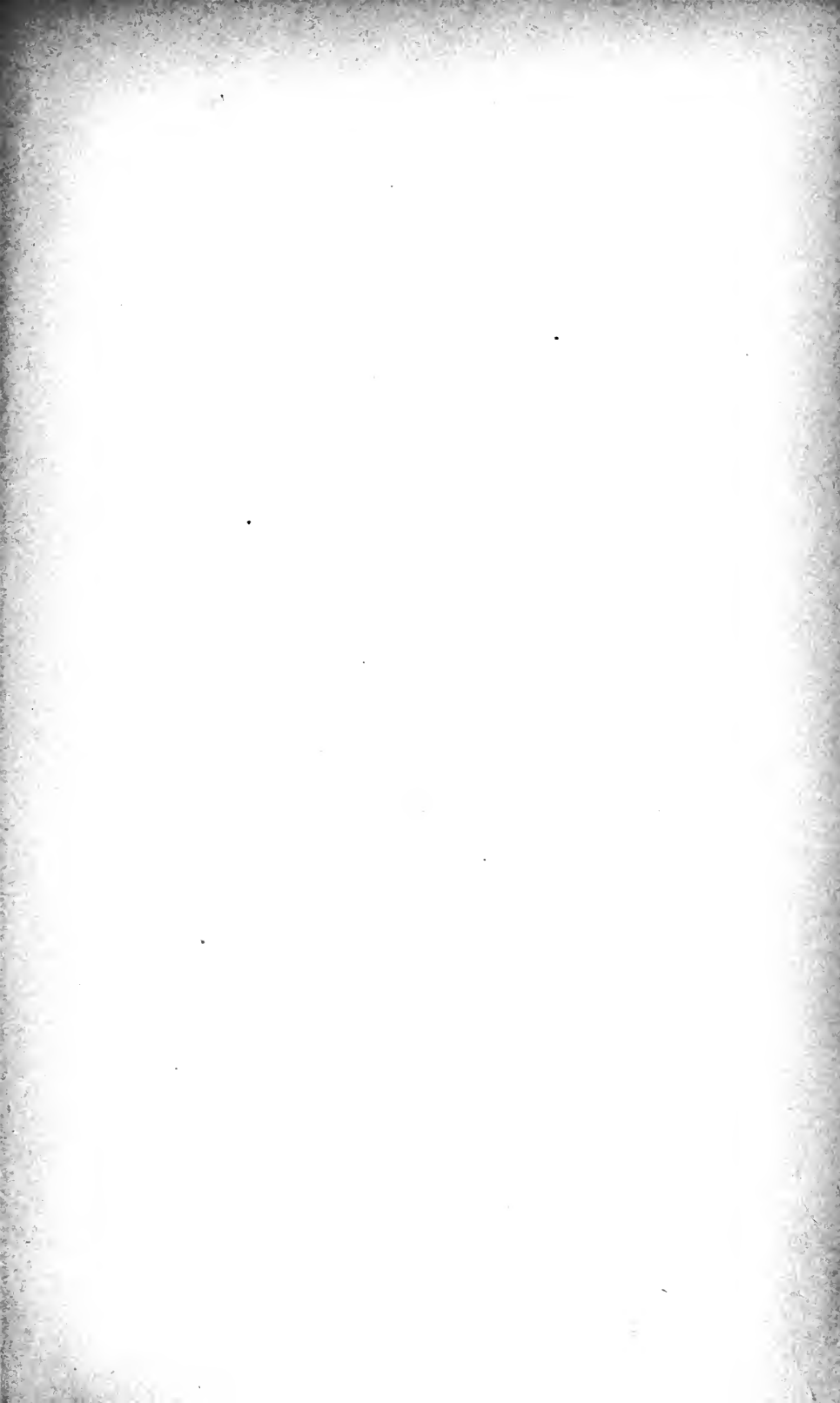
GENUS 5 (50). **Themira**. Fig. 11 *a*, thorax and base of abdomen of *Themira putris*, seen sideways.

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# DIPTERA. PL. XV.







## PLATE XVI.

### FAMILY XXVII. MUSCIDÆ (continued).

#### Subfamily 6. SEPSIDES (continued).

- GENUS 6 (51). **Calobata**. Fig. 1. *Calobata petronella*. 1 *a*, head, seen sideways; 1 *b*, antenna.

#### Subfamily 6. PSILIDES.

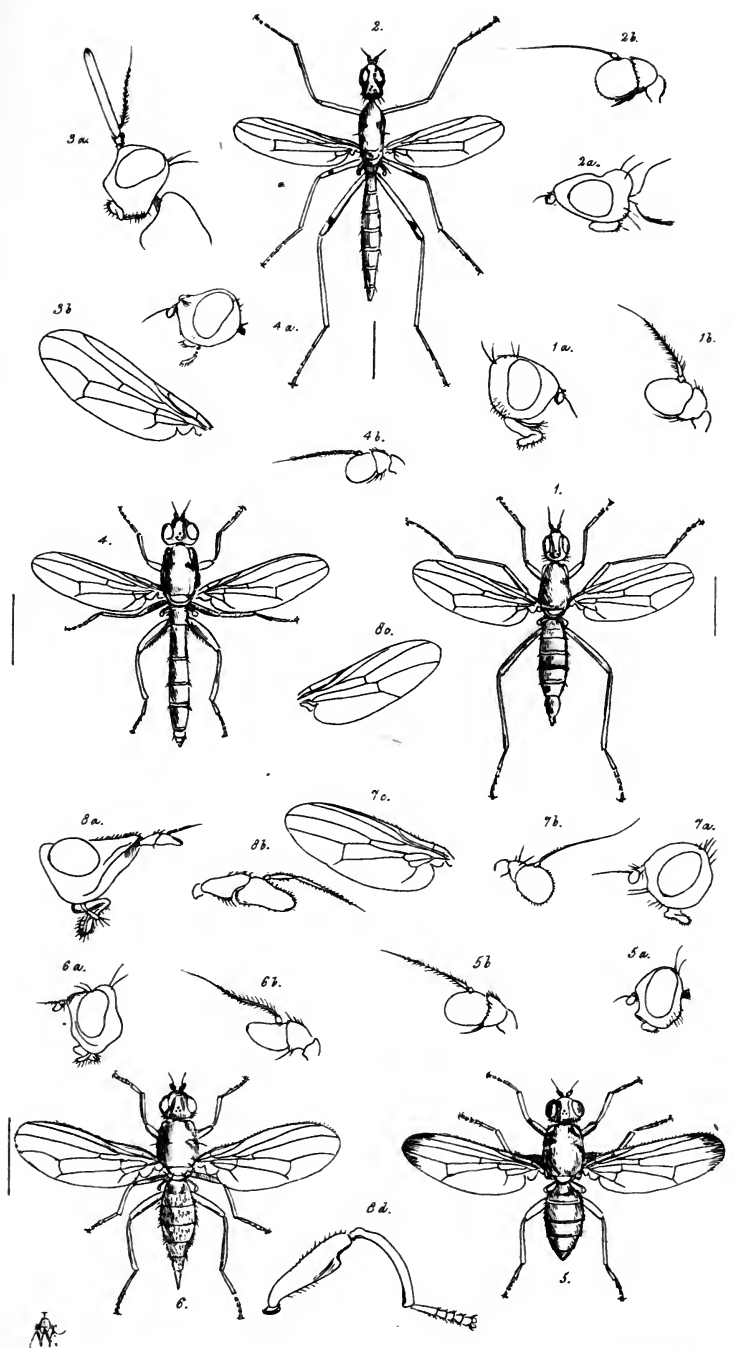
- GENUS 1 (52). **Micropeza**. Fig. 2. *Micropeza corrigiolata*. 2 *a*, head, sideways; 2 *b*, antenna.
- GENUS 2 (53). **Loxocera**. Fig. 3 *a*, head of *Loxocera ichneumonea*, seen sideways; 3 *b*, wing of ditto.
- GENUS 3 (54). **Lissa**. Fig. 4. *Lissa Dolium*. 4 *a*, head, sideways; 4 *b*, antenna.
- GENUS 4 (55). **Chyliza**. Fig. 5. *Chyliza atriseta*. 5 *a*, head, sideways; 5 *b*, antenna.
- GENUS 5 (56). **Psila**. Fig. 6. *Psila fmetaria*. 6 *a*, head, sideways; 6 *b*, antenna.
- GENUS 6 (57). **Piophila**. Fig. 7, head of *Piophila casei*; 7 *a*, antenna; 7 *b*, wing.

#### Subfamily 7. OSCINIDES.

- GENUS 1 (58). **Platycephala**. Fig. 8 *a*, head of *Platycephala planifrons*, sideways; 8 *b*, antenna; 8 *c*, wing; 8 *d*, hind leg.

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# DIPTERA. PL. XVI.









## PLATE XVII.

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### FAMILY XVII. MUSCIDÆ (*continued*).

#### Subfamily 7. OSCINIDES (*continued*).

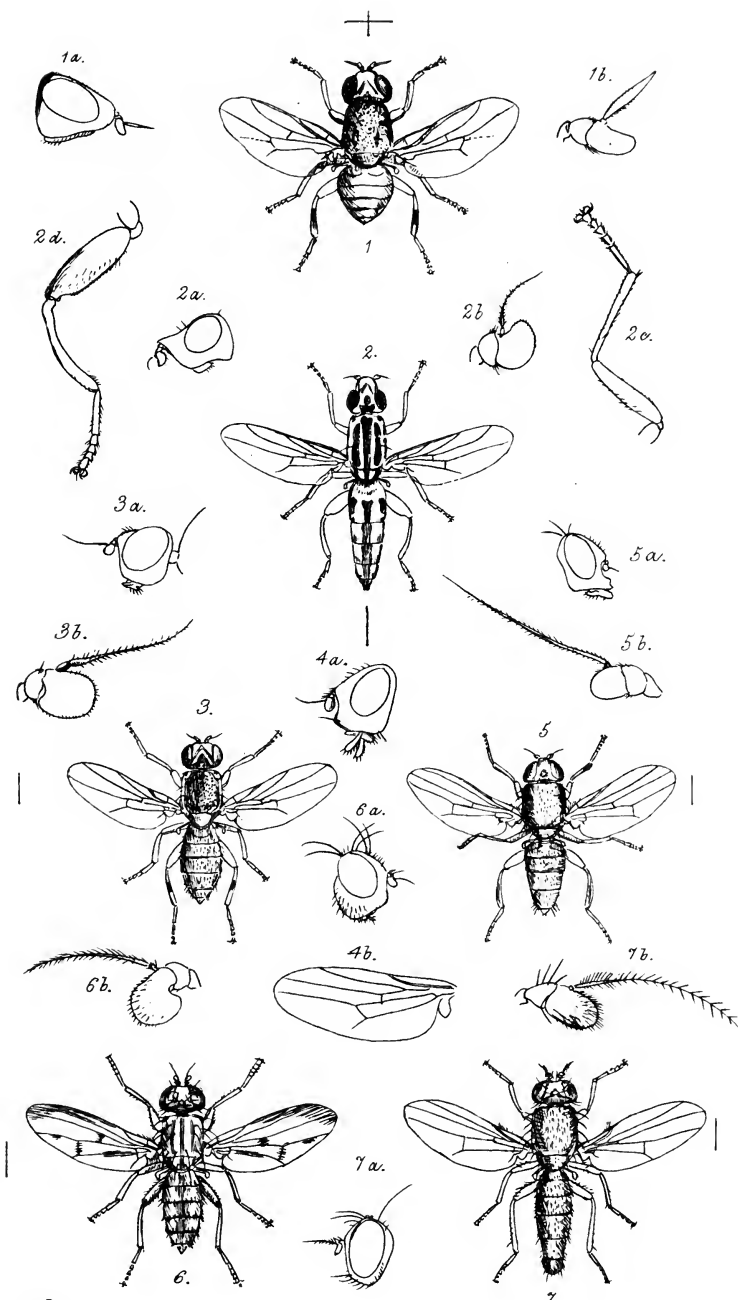
- GENUS 2 (59). **Camarota.** Fig. 1. *Camarota flavitarsis*. 1 *a*, head, sideways; 1 *b*, antenna.
- GENUS 3 (60). **Meromyza.** Fig. 2. *Meromyza pratorum*. 2 *a*, head, sideways; 2 *b*, antenna; 2 *c*, fore leg; 2 *d*, hind leg.
- GENUS 4 (61). **Chlorops.** Fig. 3. *Chlorops Cereris*. 3 *a*, head, sideways; 3 *b*, antenna.
- GENUS 5 (62). **Oscinis.** Fig. 4 *a*, head of *Oscinis palposa*, sideways; 4 *b*, wing.

#### Subfamily 8. GEOMYZIDES.

- GENUS 1 (63). **Gymnopa.** Fig. 5. *Gymnopa subsultans*. 5 *a*, head, sideways; 5 *b*, antenna.
- GENUS 2 (64). **Opomyza.** Fig. 6. *Opomyza germinationis*. 6 *a*, head, sideways; 6 *b*, antenna.
- GENUS 3 (65). **Diastata.** Fig. 7. *Diastata obscurella*. 7 *a*, head, sideways; 7 *b*, antenna.

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# DIPTERA, PL XVII.







## PLATE XVIII.

### FAMILY XVII. MUSCIDÆ (continued).

#### Subfamily 8. GEOMYZIDES (continued).

GENUS 4 (66). **Drosophila**. Fig. 1 *a*, head of *Drosophila cellaris*, sideways; 1 *b*, mouth of ditto (from Curtis); *l*, labrum; *mx*, maxilla; *p*, palpus; 1 *c*, antenna; 1 *d*, wing.

GENUS 5 (67). **Asteia**. Fig. 2. *Asteia amœna*. 2 *a*, head, sideways; 2 *b*, antenna.

#### Subfamily 9. PHYTOMYZIDES.

GENUS 1 (68). **Agromyza**. Fig. 3. *Agromyza denticornis*. 3 *a*, head, sideways; 3 *b*, antenna.

GENUS 2 (69). **Heteroneura** (Fal.; Curtis). Fig. 4. *Heteroneura albimana*, Meig. (after Curtis). 4 *a*, head, sideways; 4 *b*, antenna (after ditto).

GENUS 3 (70). **Phytomyza**. Fig. 5. *Phytomyza affinis*. 5 *a*, head, sideways; 5 *b*, face; 5 *c*, antenna.

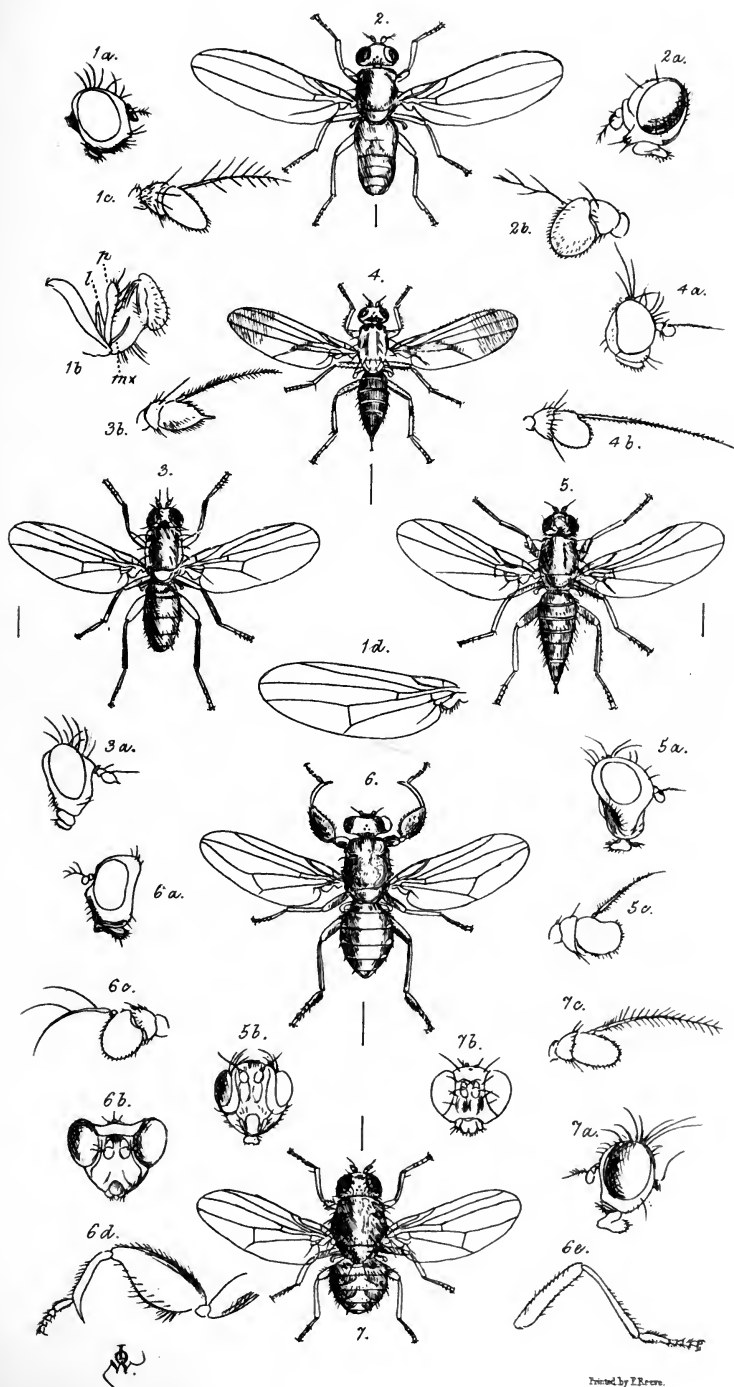
#### Subfamily 10. HYDROMYZIDES.

GENUS 1 (71). **Ochthera**. Fig. 6. *Ochthera mantis*. 6 *a*, head, sideways; 6 *b*, ditto in front; 6 *c*, antenna; 6 *d*, fore leg; 6 *e*, hind leg.

GENUS 2 (72). **Notiphila**. Fig. 7. *Notiphila cinerea*. 7 *a*, head, sideways; 7 *b*, face of ditto; 7 *c*, antenna.

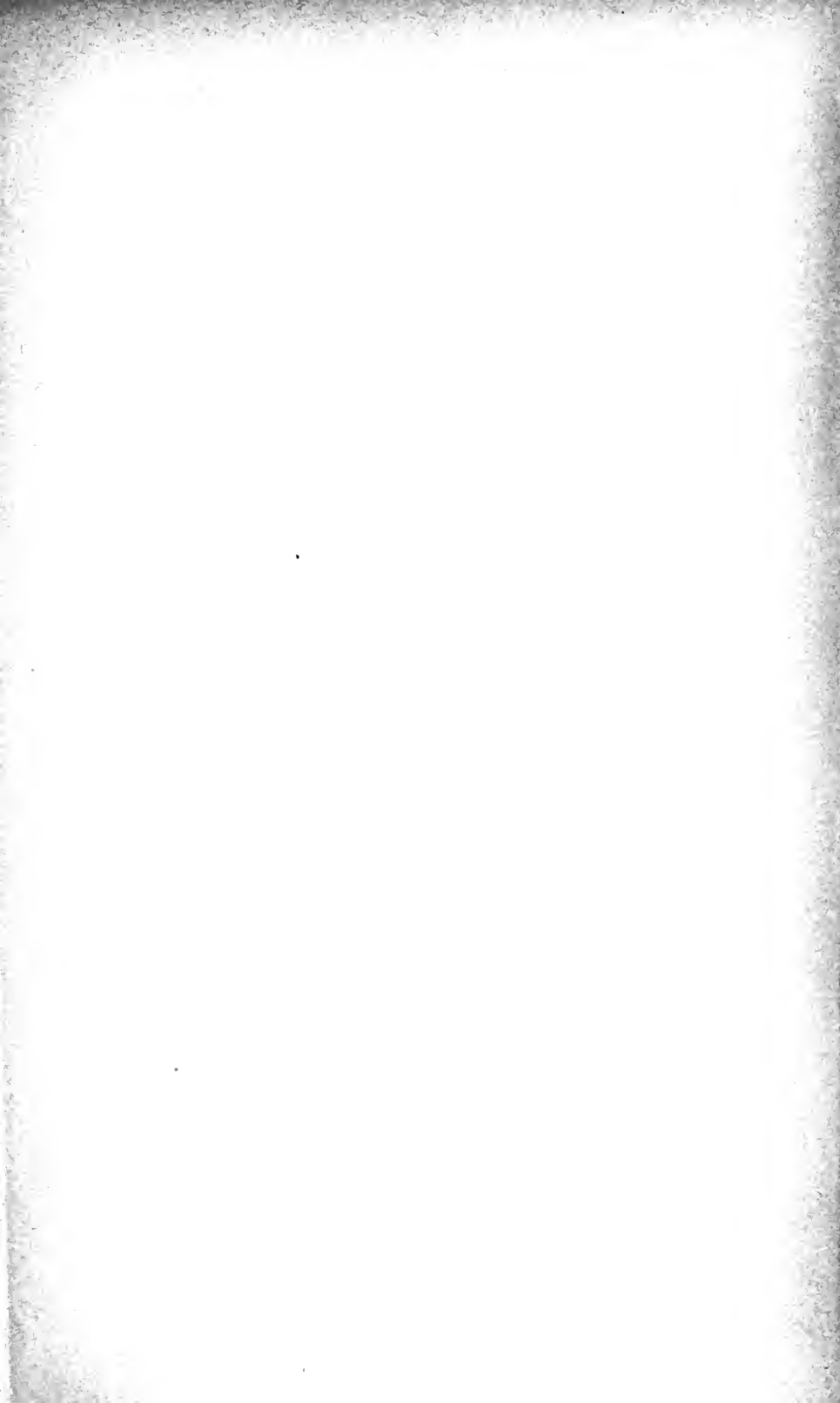
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# DIPTERA, PL. XVIII.









## PLATE XIX.

### FAMILY XXVII. MUSCIDÆ (*continued*).

#### Subfamily 10. HYDROMYZIDES (*continued*).

GENUS 3 (73). **Hydrellia**. Fig. 1. *Hydrellia griseola*. 1 *a*, head, seen sideways; 1 *b*, antenna.

GENUS 4 (74). **Ephydra**. Fig. 2. *Ephydra fusca*. 2 *a*, head, sideways; 2 *b*, antenna; 2 *c*, mouth of *Ephydra riparia* (Curtis); 2 *d*, antenna of ditto (Curtis).

### FAMILY XXVIII. CESTRIDÆ.

GENUS 1. **Æstrus**. Fig. 3. *Æstrus Bovis*, male. 3 *a*, head, seen in front; 3 *b*, ditto, sideways; 3 *c*, antenna.

GENUS 2. **Cephalemyia**. Fig. 4. *Cephalemyia Ovis*. 4 *a*, head, seen in front, with palpi detached (Curtis); 4 *b*, antenna.

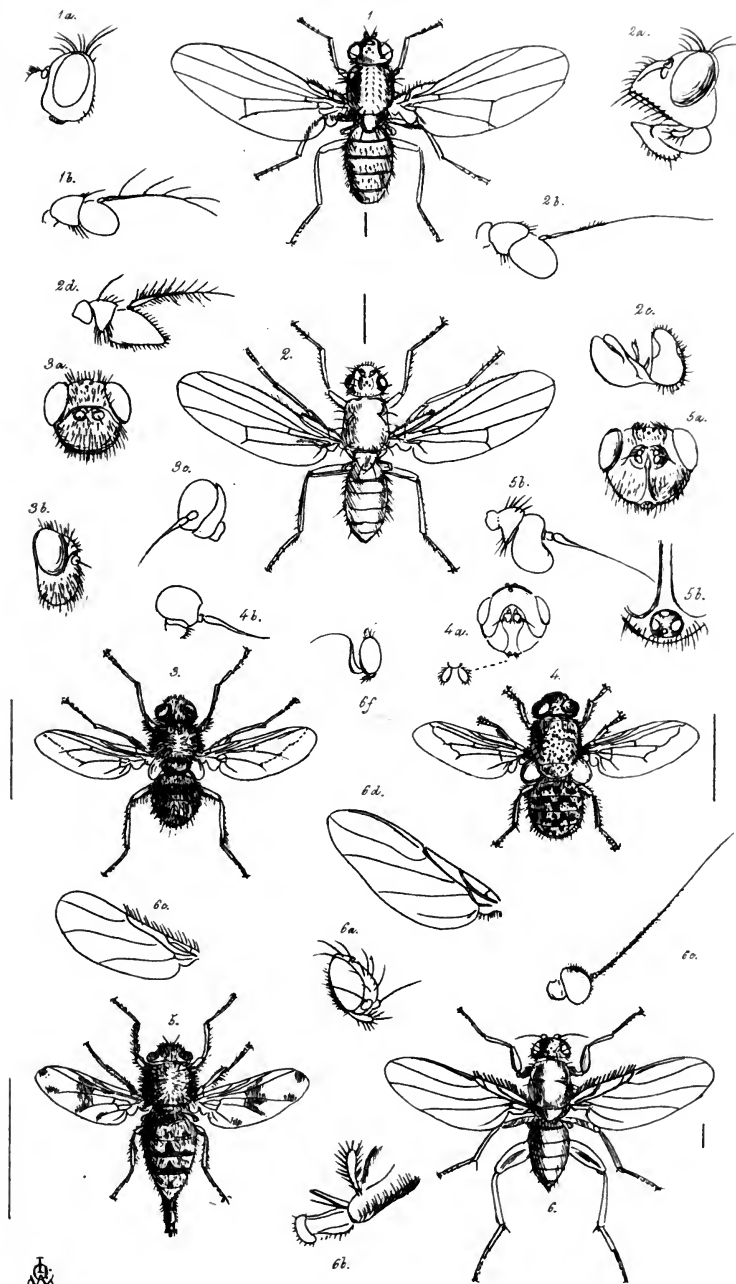
GENUS 3. **Gasterophilus**. Fig. 5. *Gasterophilus Equi*. 5 *a*, head, seen in front; 5 *b*, oral aperture; 5 *c*, antenna.

### FAMILY XXIX. PHORIDÆ.

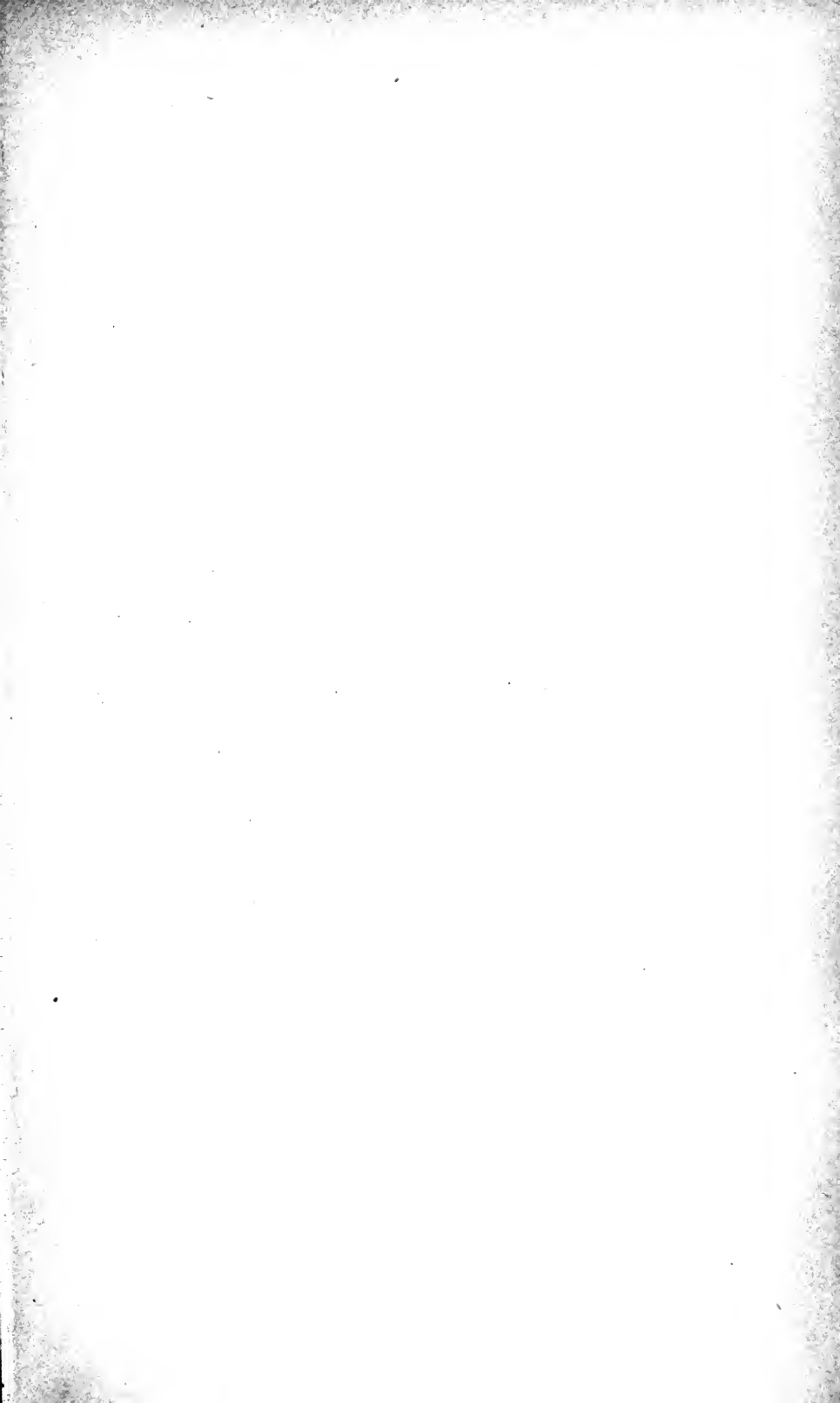
GENUS 1. **Phora**. Fig. 6. *Phora rufipes*. 6 *a*, head, sideways; 6 *b*, mouth (Meig.); 6 *c*, antenna of *Phora incrassata*; 6 *d*, wing of ditto (Curtis); 6 *e*, wing of *Phora velutina* (Meig.); 6 *f*, head of *Phora (Conicera) atra* (Meig.), seen sideways.

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## DIPTERA, PL. XIX.







## PLATE XX.

### FAMILY XXX. HIPPOBOSCIDÆ.

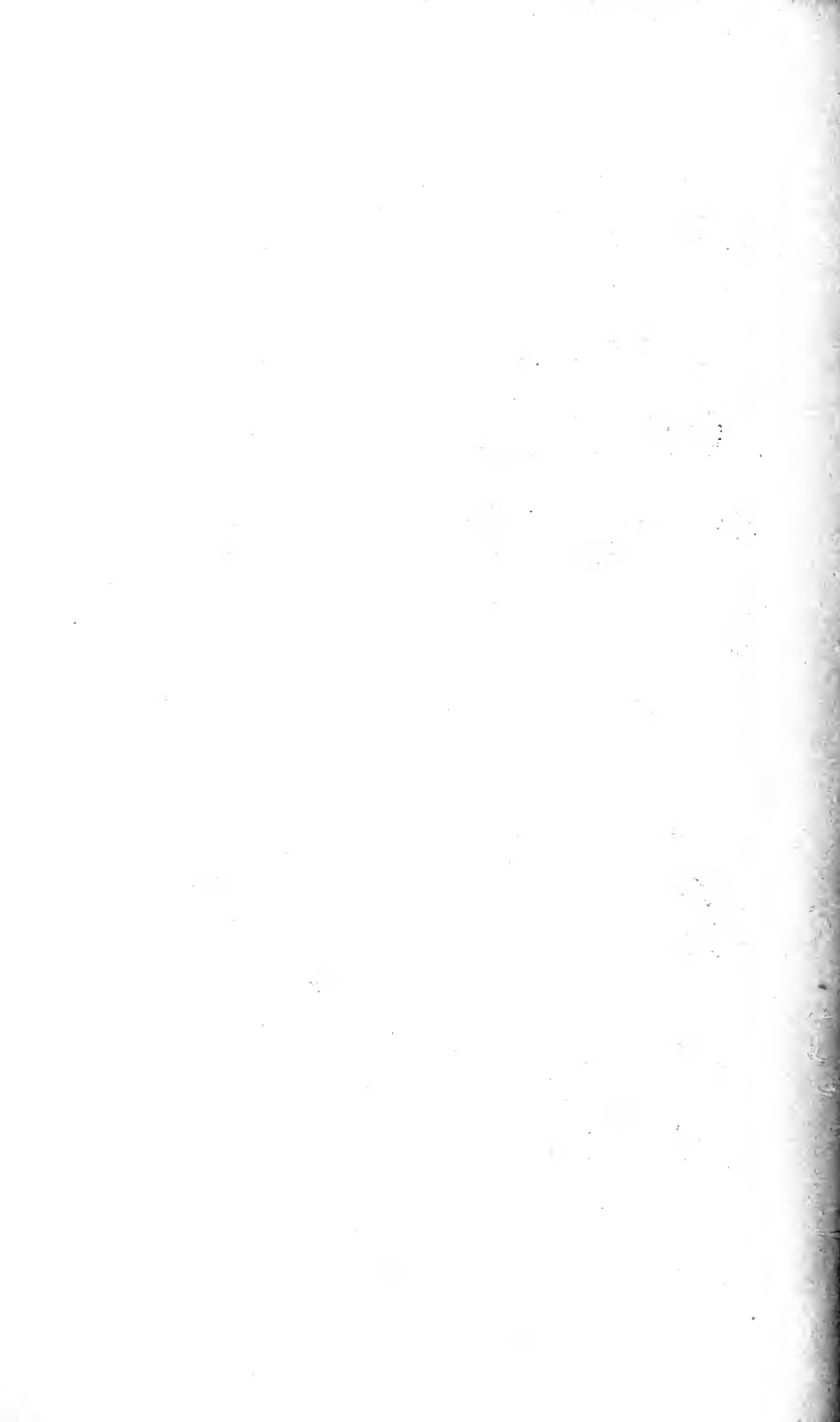
- GENUS 1. **Hippobosca.** Fig. 1. *Hippobosca equina*. 1 *a*, head, seen in front; 1 *b*, antenna; 1 *c*, front of head, sideways; 1 *d*, labrum, with the lingua and labium, and the muscular base by which they are protruded; 1 *e*, one of the halteres.
- GENUS 2. **Ornithobia.** Fig. 2. *Ornithobia pallida* (from Meigen).
- GENUS 3. **Ornithomyia.** Fig. 3. *Ornithomyia avicularia*. 3 *a*, antenna; 3 *b*, ungues.
- GENUS 4. **Hæmobora.** Fig. 4. *Hæmobora pallipes* (from Curtis).
- GENUS 5. **Stenopteryx.** Fig. 5. *Stenopteryx (Oxypterum) pallidum*. 5 *a*, antenna of *Stenopteryx Hirundinis*; 5 *b*, wing of ditto.
- GENUS 6. **Melophagus.** Fig. 6. *Melophagus ovinus*. 6 *a*, head, seen from beneath; 6 *b*, antenna (from Curtis).

### FAMILY XXXI. NYCTERIBIIDÆ.

- GENUS 1. **Nycteribia.** Fig. 7. *Nycteribia Hermannii*. 7 *a*, the same, walking, with the head (*h*) thrown back in the ordinary position; 7 *b*, thorax and abdomen, seen from beneath; 7 *c*, abdomen, seen sideways; 7 *d*, head, seen as when porrected, from the side; 7 *e*, abdomen of *Nycteribia Latreillii*, seen from above; 7 *f*, thorax and abdomen of ditto, seen from beneath.

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